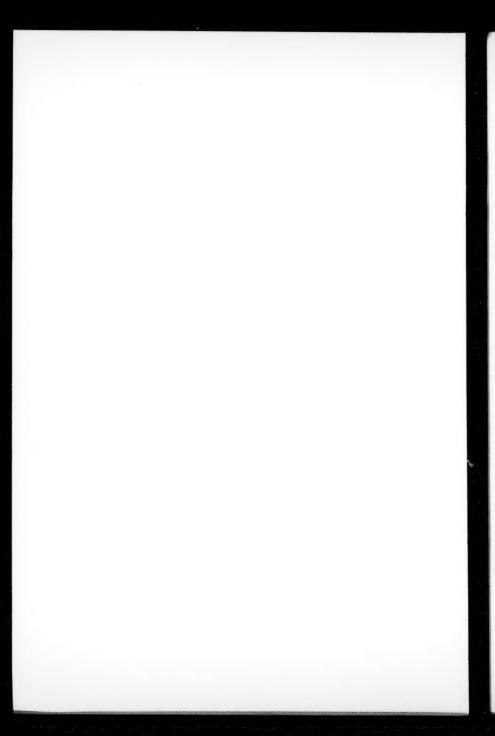
ASCE ANNUAL COMBINED INDEX

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FOREWORD

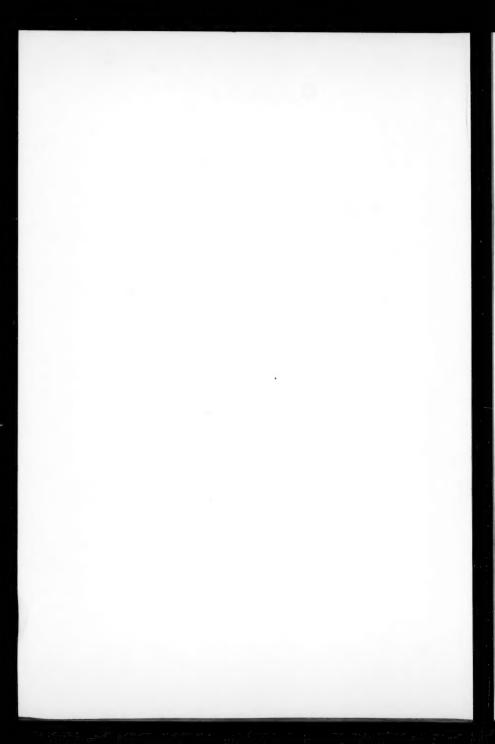
The 1983 ASCE Annual Combined Index provides a guide to material appearing in publications of the American Society of Civil Engineers published during 1983. This includes papers and technical notes from ASCE technical and professional journals, feature and news articles from Civil Engineering—ASCE, Manuals and Reports on Engineering Practice, special publications, and conference papers appearing in special publications.

In the subject index, the user will find all articles and papers dealing with specific subject areas listed under one or more appropriate subject headings suggested by the con-

tent and application of the paper.

The author index contains entries indexed under the names of editors, authors, co-authors, discussers, and committees or task forces preparing reports. Also in the author index, entries are supplemented with information concerning discussions, erratas, and closures, if any. (If there is more than one author for the original paper, this supplementary information is given with the entry for the primary author.) To find what discussion, if any, there has been for a paper or article located in the subject index, the user should look under the entry for the first named author of the paper. When a paper from a prior year is discussed, entries for the original paper are repeated.

See next page for sample entries and explanations.



Sample subject index entries

For journal papers, technical notes, and magazine articles

- Building Critical-Mode Control: Nonstationary Eathquake, 2Jann N. Yang and M. J. Lin. 3EM 4Dec. 83, 5p 1375-1389.
- 1. Title of paper. 2. Author(s). 3. Journal code. 4. Month and year of publication. 5. Pagi-

For conference papers appearing in special publications

- Estimating Consumptive Use on a Statewide Basis, 2Richard G. Allen and Charles E. Brockway. 3(Advances in Irrigation and Drainage, John Borrelli, ed., 1983), 1p79-89.
- 1. Title of paper. 2. Author(s). 3. Title, editor and year of publication of book. 4. Pagination.

For special publication (books)

- Proceedings of Coastal Structures '83, 2J. Richard Weggel, ed., 31983, 41012pp.
- Title of book. 2. Author, editor, or corporate author. 3. Year of publication. 4. Pagination.

Sample author index entry showing notes for discussions

- Engel, Peter ²Length of Flow Separation over Dunes, ³HY Oct. 81, p1133-1145 disc: Timothy R.H. Davies, HY July 82, p884-885
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- 8disc. (of Equivalent Roughness of Alluvial Bed, by Leo C. van Rijn, HY Oct. 82, p1251-1218), HY Sept. 83, p1247-1250.
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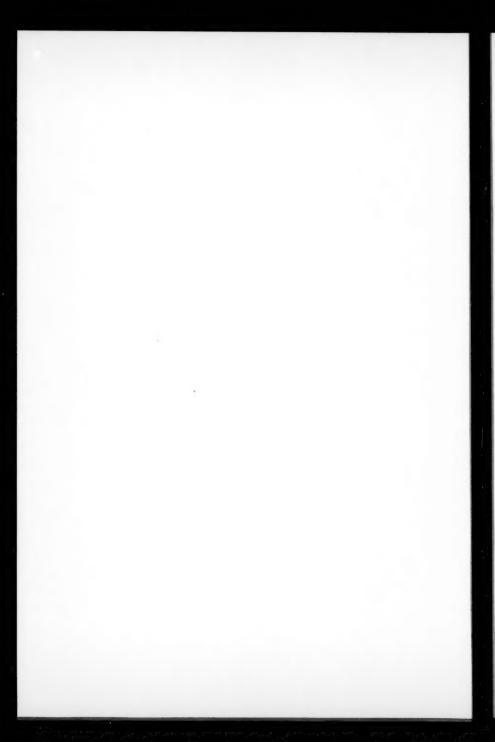
Abbreviations used in this index

- disc-discussion
- err-errata clo-closure
- ltr-letter to the editor which does not refer to a previously published article
- ed-editor

Journal codes used in this index

- CE Civil Engineering-ASCE
- CO Journal of the Construction Engineering and Management
- EE Journal of Environmental Engineering El Journal of Professional Issues in
- Engineering EM Journal of Engineering Mechanics
- EY Journal of Energy Engineering
 GT Journal of Geotechnical Engineering
 HY Journal of Hydraulic Engineering
- IR Journal of Irrigation and Drainage Engineering

- ST Journal of Stuctural Engineering SU
- Journal of Surveying Engineering TC Journal of Technical Topics in Civil Engineering
- TE Journal of Transportation Engineering UP Journal of Urban Planning and
- Development WR Journal of Water Resources Planning and
- Management WW Journal of Waterway, Port, Coastal and Ocean Engineering



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Systems, Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chmn.), 1983, 112pp. Disinfection with Chlorine and Chlorine Dioxide, E.

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Mechanical Mixing and Surrace Reaeration, Robert B. Banks, Liqu Raschid-Sally and Chongrak Polprasert, EE Feb. 83, p.232-241. Mechanical Reliability and Plant Performance, Lewis A. Rossman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p561-568

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Alfalfa Yield and Water Use in Commercial Fields,

Robert W. Hill, (Advances in Trigation and Drainage, John Borrelli, ed., 1983), p21-28. Comparison of Alfalfa Evapotranspiration Estimates, E. L. Johns, D. K. Frevert and R. W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p13-20

Crop Yield Models Adapted to Irrigation Scheduling, R. W. Hill and A. A. Keller, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p71-78.

Estimating Consumptive Use on a Statewide Basis, Richard G. Allen and Charles E. Brockway, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p79-89.

Models of Alfalfa Yield and Evapotranspiration, Johannes C. Guitjens, IR Sept. 82, p212-222. Total Water Management for Alfalfa, J. C. Guitjens, P.

-S. Tsui and J. M. Connor, (Advances in Irrigation and

Drainage, John Borrelli, ed., 1983), p63-70. Variation within Measured and Estimated Consumptive Use Requirements, Richard G. Allen and James L. Wright, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p1-12.

Optimal Cost Control Strategies for Attached Algae, Raymond P. Canale, Martin T. Auer, Yuzuru Matsuoka, Thomas M. Heidtke and Steven J. Wright,

EE Dec. 83, p1225-1242.

Predicting Algal Stimulatory Properties of Wastewater,
Neil M. Ram and Patricia E. Austin, EE Oct. 83,

p1099-1110.

Algal control
In Situ Chemical Treatment of Lagoon Effluents, M.
John Cullinane, Jr. and Richard A. Shafer, (National
Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p81-88.

Building Block Technique for Structural Design Software, Ergin Citipitioglu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p572-579. Canal Radial Gate Discharge Algorithms and Their

Use, Clark P. Buyalski, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p538-545.

Computational Extensions to Implicit Routing Models, Danny L. Fread, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p343-348.

Computer Control for Irrigation-Canal System, Darell D. Zimbelman and David D. Bedworth, IR March

83, p43-59.

Convergence of Modified Subspace Eigenanalysis Algorithms, Fathy "Fred" A. Akl, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p416-421. Element-by-Element Implicit Algorithms for Heat

Conduction, Thomas J. R. Hughes, Itzhak Levit and James Winget, EM Apr. 83, p576-585. Parallel Solution of Finite Element Equations, M. Salama, S. Utku and R. Melosh, (Proceedings of the Eighth Conference on Electrosic Computation, James K. Nelson, Jr., ed., 1983), ρ526-539.

Alluvial channels

Analytical Determination of Form Friction Factor, Muhammad I. Haque and Khalid Mahmood, HY

Apr. 83, p590-610.

Design Techniques to Mitigate Environmental Impact of Sand and Gravel Excavations in Alluvial Channels of the Western United States, Jeffrey M. Cooper, John R. Stratford, G. Thomas Davis and Robert H. Born, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p454. Equivalent Roughness of Alluvial Bed, Leo C. van Rijn,

HY Oct. 82, p1215-1218.

Flow Resistance in Large Test Channel, Joe C. Willis, HY Dec. 83, p1755-1770. Reflections on Rivers, Research, and Rouse, John F.

Kennedy, HY Oct. 83, p1253-1271. Resistance to Flow in Alluvial Channels, Gerd Holtorff,

HY Sept. 82, p1010-1028. Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

rasad, HY Dec. 22, p1400-1303.
Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.
Steady Bed Material Transport in Alluvial Channels, Gerd Holtorff, HY March 83, p368-384.
Transverse Bed Slope in Alluvial Channel Bends, A.

Jacob Odgaard, HY Dec. 81, p1677-1694.

Alluvial deposits

Slope Stability in Coarse Sediments, Nicholas Sitar, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p82-98.

Alluvial Fan Hazards at Glenwood Springs, R. G. Mock and S. L. Pawlak, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p221-233.

Evaluation of the Accuracy in Velocity Measurement in Alluvial Rivers, Tomio Asano, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1258-1261.

Meander Bends of High Amplitude, Gary Parker, Panayiotis Diplas and Juichiro Akiyama, HY Oct. 83,

p1323-1337

River-Bend Bank Protection by Submerged Vanes, A. Jacob Odgaard and John F. Kennedy, HY Aug. 83, p1161-1173.

Alluvial valleys
Scattering of SH Waves by Subsurface Topography,
Marijan Dravinski, EM Feb. 82, p1-17.

Stress-Deformation Properties of Loess and Loess-Derived Alluvium in Western Iowa, Joe M. Bradford and L. Darrell Norton, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p99-120.

Alumina

Adsorption of Arsenic and Selenium on Activated Alumina, Jill R. Yuan, Mriganka M. Ghosh, Steven M. Hornung and Ron J. Schlicher, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p433-441.

Restrained Crooked Aluminum Columns, Jacques Chapuis and Theodore V. Galambos, ST March 82,

p511-524.

P311-324. Segregated Neutralization of Aluminum-Finishing Wastes for Sludge-Volume Reduction, F. Michael Saunders and J. M. Medero, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p884-891.

A Dynamic Control Strategy for Water Treatment, Paul J. Ossenbruggen, Gordon Kraft and Farrid Bosli,

J. Ossenbruggen, Gordon Krait and Faritu Boya. (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p89-96. Filter Press Dewatering of High Alum Water Treatment Plant Sludge, Olivia L. Chen, Douglas G. Chun, David K. Gill and Darryl E. Wong, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p110-117.

American Association of Engineering Societies AAES Reaffirms Support of Reagan's Nuclear Energy Program, CE Feb. 83, p26. One Uses His Umbrella When It Rains, Kenneth A.

Roe, El Apr. 82, p166-171.

Effluent Limitations and Their Relationship to Ammonia Stream Standards for Aquatic Life, John D. Hendrick, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p335-341

Oxidative and Non Oxidative Ammonia Modeling, Michael D. Curtis, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p493-499.

Anaerobic digestion
Anaerobic Digestion of Municipal Solid Waste, Michael K. Stenstrom, Adam S. Ng, Prasanta K. Bhunia

and Seth D. Abramson, EE Oct. 83, pl148-1158.
Fixed-Film Anaerobic Digestion, R. Ryan Dupont and
Ross E. Mckinney, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p264-271.

Light Metal Cation Inhibition in Anaerobic Digestion, Edmund A. Kobylinski and Bruce A. Bell, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p399-402.

naerobic filters

Response of Anaerobic Filters to Transient Loadings, Mohamed F. Dahab and James C. Young, (National Conference on Environmental Engineering, Allen Medine, et al. eds., 1983), p272-279.

N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures, American Society of Civil Engineers, 1983, 23pp.

Analytical photogriangulation

Phototriangulation with Analyatical Plotters, Armin Gruen, SU March 83, p6-13.

Analytical techniques
Analyzing Infrastructure Condition—A Practical Ap-

Analyzing Intrastructure Condition—A Fractical 3, pp. 42.

Fractical 3, pp. 42.

Elastic Analysis of Laterally Loaded Frames, Donald J.

Fraser, ST June 83, p. 1479-1489.

Octagonal Framed Tube Office Building: A Case

History, James S. Notch, ST Dec. 83, p. 2872-2892.

Reliability Analysis Based on Fuzzy Probability,

Naruhito Shiraishi and Hitoshi Furuta, EM Dec. 83, p1445-1459.

Anchor

Holding Capacity of Vertical Anchor Slabs in Granular Soil, Braja M. Das, (Coastal Structures '83, J. R. Weggel, ed., 1983), p379-392.

Anchor bolts

Ductile Anchor Bolts for Tall Chimneys, Stephen J. Powell and Anthony H. Bryant, ST Sept. 83, p2148-2158.

Model for Pull-Out Strength of Anchors in Concrete,

Walter H. Peier, ST May 83, p1155-1173.

Anchor piles

Midstream Mooring Facilities, Gil Chatagnier, (Proceedings of Ports 83, Kong Wong, ed., 1983), p402-414.

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038. inchored bulkheads

Anchored Bulkheads with Sloping Dredge Lines, W. L. Shroeder and Phillippe Roumillac, GG June 83, p845-851.

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038. Tiebacks for Waterfront Bulkheads, Brandl Ernest D., John S. Davis and Robert C. Houghton, (Proceedings of Ports 83, Kong Wong, ed., 1983), p200-213.

Anchoring

Cable-Stayed Bridges: Degrees of Anchoring, Ramon E. Gilsanz and John M. Biggs, ST Jan. 83, p200-220.

Centrifugal Model Tests of Vertical Anchor Plates, Edward A. Dickin and Chun F. Leung, GT Dec. 83, p1503-1525.

Model for Pull-Out Strength of Anchors in Concrete,

Walter H. Peier, ST May 83, p1155-1173.

Overall Stability of Anchored Retaining Walls, William F. Anderson, Thomas H. Hanna and Magued N. Abdel-Malek, GT Nov. 83, p1416-1433.

Concurrent Forward and Backscatter LDA Measurement, Tak Kee Cheung and Jeffrey R. Koseff, (Recent Advances in Engineering Mechanics and Their

(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p1291-1294.

Directional Sensitivity of Hot Wire Probes, Ronald J. Adrian, Robert E. Johnson, Barclay G. Jones, Parviz Merati and Andrew T. -C. Tung, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1287-1290.

Revised Technique of Photographic Data Acquisition. Deane M. Manbeck and Gary Sherman, IR Dec. 83, p437-439.

Anisotropic plates

Dynamic Response of Composite Plates by a 3-D Element, J. N. Reddy and N. S. Putcha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p503-506.

Anisotropic shells

Membrane Theory for Layered Ellipsoidal Shells, Daryl L. Logan and Moujalli Hourani, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983). p774-777.

nisotropic soils

Plane Strain Constitutive Equations for Soils, Bobby O.

Hardin, GT March 83, p388-407.

Plastic Limit Behavior of Reinforced Earth, Andrzej

Sawicki, GT July 83, p1000-1005. Pore Pressure Development during Cyclic Loading,

Ching S. Chang. Ching L. Kuo and Ernest T. Selig, GT Jan. 83, p103-107.

Soil Mechanics Related to Permeability Anisotropy of Coastal Sand Deposits, Rufus T. Getzen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2413-2430.

Anisotropy Almansi's Theorems for Anisotropic Solids, Gautam Dasgupta, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Preciains and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p427-430. Exit Gradient in Anisotropic Porous Medium, Govinda Chandra Mishra and A. Siva Reddy, HY June 83,

p897-904.

Finite Element Analysis for Fracture Toughness Testing, Michael P. Cleary and Brian L. Miller, EM June 83, p741-755.

A Model for Yield of Bi-Phase Lamellar Eutectics, H. W. Lord, D. H. Lassila and R. Mayer, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p511-514.

On Stress Singularities in Laminated Composites, F. Delale, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p491-494.

Permeability-Anisotropy due to Particle Shape, K. -J. Witt and J. Brauns, GT Sept. 83, p1181-1187. Shear Modulus Bounds for Transverse Isotropy, Samuel Sutcliffe, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1933), p778-781.
Singularities at the Tip of a Crack Normal to the Interface of an Anisotropic Layered Composite, Phuong H. Hoang and T. C. T. Ting, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p479-482.

Optimization of Antenna Structure Design, Roy Levy, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p114-129.

Random Response of Mast Antenna Structures, C. W. S. To, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p279-282.

Reliability of Antenna Structures, S. H. Wang, J. T. P. Yao and W. F. Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p855-858.

Antidune Movement, Subhash C. Mehrotra, HY Feb. 83, p302-304.

Antitrust laws

Antitrust Suit Filed against Registration Board of Alaska, CE Jan. 83, p27.
Bill Proposes Aid for U.S. R&D Ventures, CE July 83,

p22.

Aquaculture
Aquaculture Theory and Practice: Hercules, California. Aquaculture I neory and Fractuce: Hercules, California, Glen T. Daigger and David L. Richardson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p66-72.
Legal Impediments to Coastal Aquaculture, Steven J. Shupe, (Caastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1550-1571.

Aquatic enviro Conceptual Guidelines for Aquatic Ecosystem Restoration, Vincent A. Lamarra, John Carter and Allen Medine, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p618-624

Effluent Limitations and Their Relationship to Ammonia Stream Standards for Aquatic Life, John D. Hendrick, (National Conference on Environmental Engineering, Allen Medine, et al. eds., 1983), p335-

Legal Impediments to Coastal Aquaculture, Steven J. Shupe, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1550-1571.

Light-Productivity Model for Onondaga Lake, NY, Stephen D. Field and Steven W. Effler, EE Aug. 83, p830-844.

Screening for Organic Toxicants in Aquatic Environ-ments, William B. Mills and Donald B. Porcella. (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p327-334.

Aquatic habitats

Design of Habitat Structures for Open Channels, Fletcher Douglas Shields, Jr., WR Oct. 83, p331-344. Los Angeles Harbor Kelp Transplant Project, Donald W. Rice, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1082-1089.

Oregon's New Coastal Research Initiative, Robert F. Tarrant and George W. Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1302-1309.

Environmental Protection Program for the Expansion Environmental Protection Program for the Expansion of the Port of Miami, Florida, Armando I. Perez, Luis Ajamil, Carmen Lunetta, Marilyn Reed and Nancy Brown, (Casatal Zone '83, Orville T. Magoon, et al., eds., 1983), p1090-1104.

Los Angeles Harbor Kelp Transplant Project, Donald W. Rice, (Casstal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1082-1089.

Tin and Microbes in the Chesapeake Bay, Joseph J. Cooney and Lawrence E. Hallas, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p864-872.

Aqueducts

Iran's Mode of Modernization: Greening the Desert, Deserting the Greenery, H. Pazwash, CE Apr. 83,

Aguifer characteristics

Recovery in Large Diameter Wells, P. Basak, HY Oct. 82, p1194-1207.

Aquifer tests

Pump Testing Boulder Zone Aquifer, South Florida, Udai P. Singh, Gary E. Eichler, C. Ross Sproul and J. I. Garcia-Bengochea, HY Aug. 83, p1152-1160.

Aquifers
1-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-

Artesian Pressure Relief for Trident Drydock, Edward B. Kinner and Wesley E. Stimpson, CO March 83,

Attenuation of Ground-Water Contaminant Pulses, Albert J. Valocchi and Paul V. Roberts, HY Dec. 83. p1665-1682.

Basin Recharge of Playa Water, A. D. Schneider and O. R. Jones, IR Sept. 83, p309-316.

Bedrock Aquifers of the Northern Great Plains, Joe S. Downey, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p29-35.

Cleanup of the Miami Drum Hazardous Waste Site, Udai P. Singh, Thomas C. Emenhiser, J. I. Garcia-

Bengochea and James E. Orban, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p758-765.

Cooling Water Supply-Disposal in Coastal Aquifer, Masanobu R. Fujioka and Akshai K. Runchal, EY

June 83, p88-102.
Field-Scale Dispersion in Aquifers, Lynn W. Gelhar, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p35.

Ground Water Transport and Attenuation from a Waste Site, Alan C. Rodgers and Philip B. Bedient, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p548-555. Groundwater Contamination from Agricultural Chemicals: North Fork, Suffolk County, Joseph H. Baier and Sy F. Robbins, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p1-13

Groundwater Effects of Surface Mining in North Dakota, M. R. Fujioka and T. E. Rosengreen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p36-43.

Ground-Water Management in Western Kansas, Edward D. Jenkins, HY Oct. 83, p1314-1322.

Groundwater Quality in Six Western States, Michael B. Sonnen, Jim L. Thomas and J. C. Guitjens, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p275-281.

Groundwater Studies in Texas and Oklahoma, James P. Law, Jr., (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p267-274.

Legal Control of Disruption of Aquifers Due to Coal Mining, George H. Davis, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p105-112.

Recovery in Large Diameter Wells, P. Basak, HY Oct. 82, p1194-1207.

Secondary Recovery of Water, B. J. Claborn, IR Dec. 83, p357-365.

Seepage into Collection Galleries, Bruce Hunt, HY June 83, p852-864. Spacing of Wells for Heat Pumps, Calvin G. Clyde and

Govindachari V. Madabhushi, WR July 83, p203-212. Third National Water Symposium: Groundwater Contamination is a Major Issue, Carl Nuzman, CE Dec. 83, p12.

Two-Dimensional Dispersion from Strip Sources, Vedat

Batu, HY June 83, p827-841.

Two-Point Method of Dispersivity Evaluation for Tracer Tests, A. David Parr and Dennis D. Lane, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p29-34.
Wastewater Effluent Is Pumped Uphill and Returns Via Aquifer, CE Nov. 83, p12.

Consolidation of Arbitration Proceedings, Michael C. Loulakis, CE Apr. 83, p34.

Geometric Optimization of Arches for Stability, George Lin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1113-1114. Imperfection Sensitivity of Circular Arches, Iradj Tadjbakhsh, (Recent Advances in Engineering Me-

chanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al., eds., 1983), p1109-1112. Lateral Load Effect on Strength of Steel Arch Bridge Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449. Nonlinear Finite Element Analysis of Clamped Arches Philip R. Calhoun and Donald A. DaDeppo, ST

March 83, p599-612. Ultimate Strength Formula for Steel Arches, Tatsuro Sakimoto and Sadao Komatsu, ST March 83, p613-627.

Architect/engineers
DOD Issues New Policies for A/E Contracts, CE Aug. 83, p10.

Arctic engineering
Applications of In-Situ Filled Containers for Arctic
Structures, J. L. Ing. Mauricio Porraz and Martin T.

Czerniak, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p601-609. Artificial Islands, Frank P. Robertson, CE Aug. 83,

p38-41.
Oil Rigs Designed to Combat Arctic Ice, Ben C. Gerwick, Jr., CE Dec. 83

Stability of Arctic Gravity Structures, Vitoon Vivatrat and Brian J. Watt, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p267-287.

Arctic region

Design for Pipeline Wind Vibration in Arctic Areas. Yee Kwok Lee, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p375-386.

Arctic Pipeline River Crossings—Design Trends and Lessons Learned, Wina M. Veldman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p70-83

Artificial Islands, Frank P. Robertson, CE Aug. 83,

Design of Manmade Offshore Islands for Ice Forces. Jerry L. Machemehl, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York:

ASCE, 1983), p38-53.

Design of Ships for Ice Environments, Goran Liljestrom, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p99-118.

Design of Single Pile Supports for Arctic Pipelines, H. W. K. Bird and K. J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p525-540.

Energy Efficiency of Arctic Transportation Systems, Derek M. Sherman and Edwin M. Rhoads, EY Dec. 83, p236-246.

Facility Designs in the Arctic for the Kuparuk Pipeline System, Victor Manikian, Kenneth J. Nyman and U. Baskurt, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p84-107.
Finite Element Techniques for Pipelines Subjected to

Extreme Loads, Dennis Row, Grawam H. Powell and Mary W. Goodson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p474-485.
Hydrocarbon Facility Siting in Northern Canada,

Heather M. Myers, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1781-1789.

Modified Reel Methods for Subsea Arctic Pipelines, Peter P. Bryce and Jeffrey M. Key, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p486-499

Pile Construction Practices in Arctic Regions: Stateof-the-Art, Dennis Nottingham, Alan B. Christopherson and John L. Larsen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p38-58.

Pipeline Construction in Arctic & Sub Arctic Regions, Michael J. Wagner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p500-524.

A Unified Geotechnical Engineering Systems Approach
Applied to Arctic Pipeline Planning and Design, Charles L. Vita and James W. Rooney, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p291-300.

Arid lands

Iran's Mode of Modernization: Greening the Desert, Deserting the Greenery, H. Pazwash, CE Apr. 83,

Steel Pipeline Provides New Water Supply for Jordan, Robert L. Thoem, Charles L. Meyer and Mark C Boner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p279-290.

Water for Las Vegas Metropolitan Area, Donald A. Haselhoff, EE June 83, p700-712

Water Supply to Namaqualand, D. Stephenson and N. D. Graham, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p456-467.

Arizona's Water Strategy: Bring More In and Restrict Its Use, Allen Morrison, CE April 83, p46-49.
Ground-Water Management in Arizona, Philip C.
Briggs, WR July 83, p195-202. Weather Modification Potential for Arizona, Larry C. Beddome, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p352-359.

Armor units

Breakage of Concrete Armor Units, Dennis G. Markle

Breakage of Concrete Armor Units, Dennis G. Markie and D. D. Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2216-2238. Breakwater Stability—Breaking Wave Data, Robert D. Carver and D. Donald Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2107-2128.

Dolos Stability Effect of Block Density and Waist Thickness, D. J. P. Scholtz, J. A. Zwamborn and M. van Niekerk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2026-2046. Hollow Block Breakwater Armor Units, A. R. Wil-

ROHOW BIOCK Breakwater Armor Units, A. R. Wilkinson and N. W. H. Allsop, (Coastal Structures '83, J. R. Weggel, ed., 1983), p208-221.

Improvements in Modelling Rubble-Mound Breakwaters, G. W. Timco and E. P. D. Mansard, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2047-2061.

Irregular Wave Tests for Composite Breakwater Foundations, Katsutoshi Tanimoto, Tadahiko Yagyu and Yoshimi Goda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2144-2163.

Monitoring of a Dolos Armor Cover; Cleveland, OH,

Joan Pope and Denton R. Clark, Jr., (Coastal Structures '83, J. R. Weggel, ed., 1983), p193-207.
The Monitoring of Rubble Mound Breakwater Stability

Using a Photographic Survey Method, J. W. J. Kluger, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2164-2170.

A Numerical Model of Wave Breakwater Interactions,

D. Ian Austin and Roger S. Schlueter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2079-2096

On the Interpretation of Rubble-Mound Breakwater Tests, G. W. Timco and E. P. D. Mansard, (Coastal Structures '83, J. R. Weggel, ed., 1983), p83-93. On the Mechanical Strength of Cubic Armour Blocks,

Manuel A. G. Silva, (Coastal Structures '83, J. R.

Weggel, ed., 1983), p259-271.
Prototype Testing of Dolosse to Destruction, T. Terao, K. Terauchi, S. Ushida, N. Shiraishi, K. Kobayashi and H. Gahara, (Proceedings of Coastal Engineering

82, Billy L. Edge, ed., 1983), D2062-2078.
Repair to a Dolos Armoured Breakwater, C. W. Glodowski, D. L. I.zjoie and Y. Ropars, (Proceedings of Castal Engineering 32, Vol. II, Billy L. Edge, ed., 1000-1-1723-24-24-000

1983), p1733-1744.

1793), p.173-1744.
Seabees in Service, C. T. Brown. (Coastal Structures '83, J. R. Weggel, ed., 1933), p.235-258.
Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and

through Irregular Wave 1est, Masato Yamamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143. Stability of Armour Units in Oscillatory Flow, Hans F. Burcharth and A. C. Thompson, (Coastal Structures '83, J. R. Weggel, ed., 1983), p71-82. West Breakwater-Sines New Aspects of Armor Units, R. L. Greeneveld, A. Mol and P. A. J. Zwetsloot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p45-56.

West Breakwater-Sines Overview of Rehabilitation and Synthesis of Project, J. F. Toppler, A. Steenmeyer, M. A. Goncalves da Silva, H. Ligteringen and F. Silveira Ramos, (Coastal Structures '82, J. R. Weggel, ed., 1983), p3-16.

West Breakwater-Sines Study of Armour Stability, A. Mol, H. Ligteringen, R. L. Groeneveld and C. R. A. M. Pita, (Coastal Structures '83, J. R. Weggel, ed., 1983), p57-70.

Zeebrugge's Main Breakwaters, L. V. Van Damme, (Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1745-1764.

Arsenic

Adsorption of Arsenic and Selenium on Activated Alumina, Jill R. Yuan, Mriganka M. Ghosh, Steven M. Hornung and Ron J. Schlicher, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p433-441.

Artesian pressure Artesian Pressure Relief for Trident Drydock, Edward B. Kinner and Wesley E. Stimpson, CO March 83, p74-88.

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Asbestos Control Program for Institutional Facilities, Mark D. Ryckman, DeVere W. Ryckman and Jeffrey L. Peters, EE Apr. 83, p275-288

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Evaluation of Selected Initial Dilution Models, Abu M.
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ASCE Publications

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Chance Constrained Aggregate Blending, Sang M. Lee and David L. Olson, CO March 83, p39-47. Characterization of Asphalt Emulsion Treated Bases,

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Pilot Studies Apply Asphalt Concrete in Railroad Beds: Expected to Eliminate Subballast, E. J. Scott, CE

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The Use of Bitumen in Coastal Structures, Arie P. van Garderen and Gerrit L. M. Mulders, (Coastal Structures '83, J. R Weggel, ed., 1983), p342-355.

Asymetric structures

Vibration of Asymetrical Building-Foundation Systems, Thambirajah Balendra, Chan Weng Tat and Seng-Lip Lee, EM Apr. 83, p430-449.

Asymmetric structures

A Simple Dynamic Model for Asymmetrical Buildings, Thambirajah Balendra and Seng-Lip Lee, (Proceed-ings of the Eighth Conference on Electronic Compu-tation, James K. Nelson, Jr., ed., 1983), p633-645.

Asymmetric Plane Flow with Application to Ice Jams, Jean-Claude Tatinclaux and Mustafa Göğüs, HY Nov. 83, p1540-1554.

Design of Natural Attenuation Landfills, Amalendu Bagchi, EE Aug. 83, p800-811.

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Mean of Autocorrelated Air Quality Measurements, Cynthia S. Hirtzel, Jimmie E. Quon and Ross B. Corotis, EE June 82, p488-501.

Automated Telemetric Irrigation Controller, H. D. Fisher, A. S. Humpherys and D. A. Young, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p250-258.

Word Processing, Tips on How to Choose a System, Nhora Cortes-Comerer, CE Feb. 83, p50-55.

Policy Analysis Implications of Four Cogent Trans-portation Topics, Yupo Chan, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p32-53.

tomobiles

Minisized Automobiles and Roadside Appurtenances, John F. Carney, III, TE Nov. 83, p815-823.

Auto-regressive moving-average model Recursive Estimation in Nonlinear Hydrologic Model, Srinivas G. Rao and A. Ramachandra Rao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p499-504.

Kerr and Patrick J. Shade, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p730-733. Analysis of Concrete Pavement Blowups, Arnold D.

Axial Capacity of Steel Pipe Piles in Clay, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p370-388.

Compression of "Free-Ends" During Triaxial Testing, Robert W. Sarsby, Nikolas Kalteziotis and Essam H. Haddad, GT Jan. 82, p83-107.

Inelastic Tangential Stiffness for 2-D Frames, Tai-Yan Kam, Edwin C. Rossow and Ross B. Corotis, ST Nov. 83, p2685-2697.

Axial loads

Axial Capacity of Steel Pipe Piles in Sand, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p389-402.

G. Poulos, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE,

1983), p403-421. Internal Force Distribution Effect on Framework Stability, George D. Manolis and Dimitrios E. Beskos, ST Jan. 83, p250-257.
L-Shaped Reinforced Concrete Column Section, C. T.

L'Stapeu Reimorced Contrete Column section, c. Thomas Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p557-560.

Theoreticql 1-z Curves, Leland M. Kraft, Jr., Richard P. Ray and Takaaki Kagawa, GT Nov. 81, p1543-1561.

Axial strain

Dynamics of Frames with Axial Constraints, William Weaver, Jr. and Moshe Eisenberger, ST March 83, p773-784.

Backfills

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Geofabric Stabilization of Soft Backfill Materials for Plastic Sewer Pipe Installation, Jey K. Jeyapalan, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p188-198.

Radial versus Parallel Tie Arrays in Earth Backfills, Donald H. Gary and James Lott, GT July 83,

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Seismically Induced Movement of Retaining Walls, Farrokh Nadim and Robert V. Whitman, GT July 83, p915-931.

Backwater

Stage-Frequency Analysis at a Major River Junction, Gary R. Dyhouse, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p492-498.

Microbial Activity in Activated Carbon Filters, John G. den Blanken, EE April 82, p405-425. A Model for the Bacterial Contamination of Ground-

water, M. Yavuz Corapcioglu and A. Haridas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p60-65.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Bank stabilization

Factors in Stability of Relocated Channels, James C. Brice, HY Oct. 83, p1298-1313.

Fencing a Bar Chart, John W. Melin and Barry Whiteaker, CO Sept. 81, p497-507.

Modernization of Conrail's Pier 124, Frank J. Tencza, (Proceedings of Ports 83, Kong Wong, ed., 1983), p635-648.

Pollution Abatement for Barge Cleaning Operations, Charles Lamoureux, (Proceedings of Ports 83, Kong Wong, ed., 1983), p15-21.

Barrier beaches

Barrier Beach Features of California, Hugh Converse, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1008-1027. Construction of a Breach Closure in a Barrier Island, M. J. McCarthy, E. J. Schmeltz and G. R. Lehan, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1219-1230.

Barrier collision tests Vehicle Crash Testing of Roadside Appurtenances, Jarvis D. Michie, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p72-81.

Barrier islands

Beach/Dune Changes on Natural and Developed Coasts, Paul A. Gares, (Coastal Zone '83, Orville T.

Coasts, Paul A. Cares, (Coastal Zone 35, Orville 1. Magoon, et al, eds., 1983), p1178-1194.
Breach/Inlet Interaction at Moriches Inlet, E. J. Schmeltz, R. M. Sorensen, M. J. McCarthy and G. Nersesian, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1062-1077.
Changes of Some North Carolina Barrier Islands Since

the Mid-19th Century, J. T. Jarrett, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p641-661. Coastal Barrier Resources Act and The National Flood Insurance Program, Frank Y. Tsai, (Coastal Zone '83,

Insurance Program, Frank Y. Tsai, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2020-2023. Construction of a Breach Closure in a Barrier Island, M. J. McCarthy, E. J. Schmeltz and G. R. Lehan, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1219-1230. Dune Building and Vegetative Stabilization in a Sand Deficient Barrier Island Environment, I. A. Mendelssohn, J. W. Jordan, F. Talbot and C. J. Starkovich, (Coastal Zone '83, Orville T. Magoon, et al, eds. 1983), p601-619.

kovich, (Coastal Zone 83, OrValie 1. Magoon, et al, eds., 1983), p601-619 in Barrier Island Systems, Richard A. Schmalz, Jr., WW May 83, p222-235. Multiple-Use Conflicts in a Growing Economy, Andrew A. Dzurik, UP Sept. 83, p79-93.

Nitrogen-Fixing Plants for Coastal Management, W. N.

Tiffney, Jr. and D. E. Eveleigh, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p102-111.

Post-Storm Management and Planning in Avalon, New Jersey, Stewart C. Farrell and John W. Sinton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p662-681.

Science and the Designation Process under Federal Coastal Barrier Legislation, Thomas F. McKinney and John C. Kraft, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p697-707. Undeveloped Coastal Barriers Photographic Inventory,

James B. Johnston, Raymond D. Filbey and Gary A Shelton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2402-2412.

Analysis and Design of Safety Appurtenances by Computer Simulation, Hayes E. Ross, Jr., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p54-71.
Piles as Barriers for Elastic Waves, Javier Aviles and

Francisco J. Sanchez-Sesma, GT Sept. 83, p1133-1146.

Infinite Elements for Elastostatics of Half Spaces, R. K. N. D. Rajapakse and Pisidhi Karasudhi, (Recent Advances in Engineering Mechanics and Their Impact

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 983-5838.
Instability of Thin Walled Bars, Terence M. Roberts and Zaven G. Azizian, EM June 83, p781-794.
Morphology and Dynamics of Crescentic Bar Systems, V. Goldsmith, D. Bowman, K. Kiley, B. Burdick, Y. Mart and S. Sofer, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p941-953.
On the Snap-Through Phenomenon of N-Imperfect Bars, Evangelos Galoussis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1122-1125.

Sediment Bypassing at Mixed Energy Tidal Inlets, Duncan M. FitzGerald, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p.1094-1118.

Torsion of a Rectangular Bar with Two Circular Holes,

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asements, building

Reliability of Basements As Shelters, A. Longinow, N. T. Thomopoulos and J. Mohammadi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p911-914.

Development of Solutions for Level-Basin Design, Albert J. Clemmens, Theodor Strelkoff and Allen R. Dedrick, IR Sept. 81, p265-279. Heat Loss from Rapid Infiltration Basin in Winter,

Heinz G. Stefan, EE Feb. 82, p141-158.

Investigation of Daily Flow Forecasting Models, Hasan
Yazicigil, A. Ramachandra Rao and G. H. Toebes, WR March 82, p67-85.

Limits for Practical Level-Basin Design, Albert J. Clemmens and Allen R. Dedrick, IR June 82,

Regional Monthly Rainfall-Runoff Model, M. Mimikou and A. Ramachandra Rao, WR Jan. 83, p75-93.

Bayesian Approach to Prototype Testing P. Hauge Madsen and Niels C. Lind, ST April 82, p753-770. Fundamental Postulate in Structural Safety, Ove Ditlevsen, EM Aug. 83, p1096-1102.

New Buffalo Harbor Beach Nourishment, A. Kubek, (Coastal Structures '83, J. R. Weggel, ed., 1983), p832-845

Beach erosion

Artificial Manipulation of Beach Profiles, Timothy W. Kana and Michael Svetlichny, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p903-922.

Beach Response to Spurs and Groins, G. L. Anderson, S. Hardaway and J. R. Gunn, (Coastal Structures '83, J. R. Weggel, ed., 1983), p727-739. Breakwaters for Beach Protection at Lorain, OH, Joan

Pope and Darlene D. Rowen, (Coastal Structures '83,

J. R. Weggel, ed., 1983), p753-768.

Comprehensive Study of the Coast of California, Dan Muslin and Jan Devine, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1142-1152. The Corps of Engineers and Coastal Engineering, A 50

Year Retrospective, Jamie W. Moore and Dorothy P. Moore, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1627-1639.

The Design and Performance of a Weir at Boca Raton Inlet, Florida, Richard H. Spadoni, Norman H. Beumel and Thomas J. Campbell, (Coastal Structures '83, J. R Weggel, ed., 1983), p894-901.

Effects of CERC Research Pier on Nearshore Proc-

esses, H. C. Miller, W. A. Birkemeier and A. E. DeWall, (Coastal Structures 83, J. R. Weggel, ed., 1983), p769-784.

Longshore Currents with Wave Current Interaction, Robert A. Dalrymple, WW Aug. 80, p414-420. Movable-Bed Modeling Law for Coastal Dune Erosion, Steven A. Hughes, WW May 83, p164-179.

Predictive Computational for Beach and Dune Erosion During Storm Surges, Pier Vellinga, (Coastal Struc-tures '83, J. R. Weggel, ed., 1983), p806-819. Privately Funded Beach Vegetation Program, Kathryn Gooderham and Richard Workman, (Coastal Zone

'83, Orville T. Magoon, et al, eds., 1983), p897-911.

La Push, Washington-Is There a Solution to the Beach Erosion Problem? Maurice L. Schwartz, (Coastal Structures '83, J. R. Weggel, ed., 1983), p785-791.

The Rate of Longshore Sediment Transport and Beach Erosion Control, Yoshito Tsuchiya, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1326-1334.

Recreation Demand for Five Galveston Island, Texas Beach Segments, James M. Kieslich and Lynwood G. Weiss, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2173-2185. The Role of Crisis in Coastal Erosion Management in

New South Wales Australia, Barbara J. Langton and

David M. Chapman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1640-1650.

Short-Term Protection on a Rapidly Eroding Beach, L.
D. Nakashima, J. M. McCluskey, P. A. Gares and N.
P. Psuty, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p682-696.

eds., 1983), po82-696. Soft Engineering Alternatives for Shore Protection, Timothy W. Kana, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p912-929. Understanding Beach Erosion and Accretion, William N. Seelig, WW Nov. 83, p490-494. Underwater Filling of Longard Tubes, Guiseppe Sarti and John Larsen, (Coastal Structures '83, J. R Weggel, ed., 1983), n610-618.

Weggel, ed., 1983), p610-618. Variable Sediment Flux and Beach Management, Ventural County, California, Antony R. Orme and Amalie Jo Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2328-2342. Variation of Foreshore Due to Detached Breakwaters,

Osamu Toyoshima, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1873-1892.

Beach nourishment

Beach noursament
Assessment of Beach Fill Performance by Excursion
Analysis, Ivan B. Chou, Gregory M. Powell and
Travor C. Winton, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p2561-2377.
Beach Nourishment Monitoring, Florida East Coast:
Physical Engineering Aspects & Management Implications, D. K. Stauble, M. Hansen, R. Hushla and L.

Parson, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p2512-2526.

The Corps of Engineers and Coastal Engineering, A 50 Year Retrospective, Jamie W. Moore and Dorothy P. Moore, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1627-1639.

New Buffalo Harbor Beach Nourishment, A. Kubek, (Coastal Structures '83, J. R. Weggel, ed., 1983), p832-845

Post-Storm Management and Planning in Avalon, New Jersey, Stewart C. Farrell and John W. Sinton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p662-681.

Privately Funded Beach Vegetation Program, Kathryn Gooderham and Richard Workman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p897-911.

Short-Term Protection on a Rapidly Eroding Beach, L D. Nakashima, J. M. McCluskey, P. A. Gares and N. P. Psuty, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p682-696. Use of Inlet Sand for Beach Nourishment in Florida,

Mark E. Leadon, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2378-2386.

Artificial Dune Serves Protection Purpose, CE Aug. 83,

Artificial Manipulation of Beach Profiles, Timothy W. Kana and Michael Svetlichny, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p903-922.

Beach Access—Getting More for Less, Debra Swim, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p949-965.

Blown Sand on Beaches, Susumu Kubota, Kiyoshi Horikawa and Shintaro Hotta, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983),

Coast Effectiveness: A Better Beach for Your Buck, Donald B. Neuwirth and Stephen Furney-Howe, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p930-948.

Description of Beach Changes Using an Empirical Predictive Model of Beach Profile Changes, Takaaki Uda and Hiroshi Hashimoto, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1405-1418

Design and Calibration of False Bay Sediment Model, J. S. Schoonees and J. P. Moller, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1161-1180.

Dune Building and Vegetative Stabilization in a Sand

Deficient Barrier Island Environment, I. A. Mendelssohn, J. W. Jordan, F. Talbot and C. J. Starkovich, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p601-619.

Durban Beaches Reclamation: Practical Aspects, K. A. Barnett, (Proceedings of Coastal Engineering 82, Billy

Barnett, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1970-1991. End Runs around Public Access Law and Policy, Alex W. Wypyszinski, Esq., (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p438-447. Experiments on Beach Profile Change with a Large Wave Flume, Ryoichi Kajima, Takao Shimizu, Kohki Maruyama and Shozo Saito, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1385-1408. p1385-1404.

Field Investigation of Beach Profile Changes and the Analysis Using Empirical Eigenfunctions, Hiroshi Hashimoto and Takaaki Uda, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1369-1384.

Field Study on Onshore-Offshore Sediment Transport,

Masataro Hattori, (*Proceedings of Coastal Engineering 82, Vol. 11*, Billy L. Edge, ed., 1983), p923-940. Multiple Beach Use, Does It Work? A Case Study, Stephen V. Shabica and Michael Cousens, (*Coastal Zone '83*, Orville T. Magoon, et al, eds., 1983), p2186-2200.

Predicting Transport on Beaches: The State of the Art Relative to Rivers, Cyril Galvin, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p188-194.

Secondary Pressures of Waves Breaking on Seawall, M. Salih Kirkgöz, WW Nov. 83, p487-490.

Sediment Transport and Beach Transformation. Tomoya Shibayama and Kiyoshi Horikawa, (Proceedings of Coastal Engineering 82, Vol. II, Billy L.

ceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), pl439-1458.
Variable Sediment Flux and Beach Management, Ventural County, California, Antony R. Orme and Amalie Jo Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2328-2342.
Who Owns the Beach, Katherine E. Stone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p475-479.

p475-479.

Beam column

The Finite Element Elastic Beam-Column, Joao A. Teixeira de Freitas and David Lloyd Smith, EM Oct. 83, p1247-1269.

Inelastic Behavior of Built-Up Timber Compression Members, S. K. Malhotra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p531-534.

Inelastic Tangential Stiffness for 2-D Frames, Tai-Yan Kam, Edwin C. Rossow and Ross B. Corotis, ST Nov. 83, p2685-2697.

Large Deformation Analysis of Elastic-Plastic Frames, Aslam Kassimali, ST Aug. 83, p1869-1886. Local and Overall Buckling of Welded Box Columns,

Tsutomu Usami and Yushsi Fukumoto, ST March 82, p525-542.

Modeling of R/C Joints under Cyclic Excitations, Filip C. Filippou, Egor P. Popov and Vitelmo V. Bertero, ST Nov. 83, p2666-2684.

Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83, p1918-1932.

Post-Buckling Instability of Steel Beam-Columns, Masayoshi Nakashima, Takeshi Nakamura and Minoru Wakabayashi, ST June 83, p1414-1430. Shear Strength of R/C Beam-Column Connections,

Donald F. Meinheit and James O. Jirsa, ST Nov. 81, p2227-2244.

2-D Finite Element Analysis of Massive RC Structures,

Niels Saabye Ottosen, ST Aug. 82, p1874-1893.
Analysis of Complex Shear Wall Structures, B. S.
Taranath, M. B. Kanchi, B. Kadaikal and M.
Vasseghi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.

1983), p622-632.

Beam Elements on Two-Parameter Elastic Foundations, Feng Zhaohua and Robert D. Cook, EM Dec. 83, p1390-1402.

Beams with Torsional Stiffeners, Richard M. Szewczak, Erling A. Smith and John T. DeWolf, ST July 83, p1635-1647.

Buckling of Angles: State of the Art, John B. Kennedy and Murty K. S. Madugula, ST Sept. 82, p1967-1980. Cracking at Openings in Prestressed Beams at Transfer, John B. Kennedy and A. M. El-Laithy, ST June 82,

Crash Resistance of Curved Thin-Walled Beams. Jacques Crouzet-Pascal, Robert Winter and Robert Gentzlinger, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p656-659.

Dynamic Response of a Multilayer Bimodulus Beam,

A. A. Sarhangnezhad and V. I. Weingarten, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p401-419.

Eigenvalues of Structures Carrying Sheets of Liquid, Werner Soedel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p201-204. Elastic Analysis of Laterally Loaded Frames, Donald J. Fraser, ST June 83, p1479-1489.

Extrapolation Techniques for Buckling Loads, Mario M. Atlard, ST Apr. 83, p926-935.
Finite Element Solutions of Deep Beams, Mohammed
M. Ettouney and Walter Schmidt, ST July 83,

p1569-1584. Fracture Diagnosis in Beam-Frame Structures Using Circuit-Analogy, Frederick D. Ju, Mehmet Akgun and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p767-769.

Inelastic Behavior of Continuous Prestressed Concrete Beams, M. Z. Cohn and Y. Frostig, ST Oct. 83, p2292-2309.

Inelastic Lateral Torsional Buckling of Beams, Bruce A. Hollinger and C. P. Mangelsdorf, ST Aug. 81, p1551-1567.

Instability of Thin Walled Bars, Terence M. Roberts and Zaven G. Azizian, EM June 83, p781-794. Large Deflections of Nonlinear Elastic Beams under Uniformly Distributed Loads, Frank Monasa and Gilbert Lewis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), 9455-458.
Limit Design in Cold-Formed Steel, Muzaffer Yener and Teach Palear, CT. Sept. 32, 2022-2021.

and Teoman Pekoz, ST Sept. 83, p2032-2047.

Magnel Diagrams for Prestressed Concrete Beams,
Natarajan Krishnamurthy, ST Dec. 83, p2761-2769.

Non-Linear Analysis of Thin-Walled Beams, H. P. Lee,

P. J. Harris and C. T. Thomas Hsu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p404-415.

Nonlinear Elastic Frame Analysis by Finite Element, Robert K. Wen and Jalil Rahimzadeh, ST Aug. 83,

p1952-1971.

On Response of Beams on Elastic Foundations, J. Bielak and D. Sriram, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p435-438.

Optimized Wave Parameter in Fin. Diff. Equations, John Insprucker, III and Anthony N. Palazotto, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p436-453.

Performance of Strengthened Highway Bridges, Wal-lace W., Sanders, Jr. and F. Wayne Klaiber, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p174-192.

Predictions of Nonlinear Fracture Process Zone in Concrete, Methi Wecharatana and Surendra P. Shah,

EM Oct. 83, p1231-1246.

Properties of Concrete Subjected to Impact, Wimal

Suaris and Surendra P. Shah, ST July 83, p1727-1741.
Reinforced Concrete Beams under Bending, Torsion
and Shear—A Finite Element Approach, Gerhard
Mehlhorn and Gunter Schmidt Gonner, (Recent
Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p706-709.

Reinforced Soil Beams, K. J. Gaind and A. N. R. Char,

Reinforced Soil Beams, K. J. Gainu and A. N. R. Char, GT July 83, p977-982. Secondary Warping of Thin-Walled Beams, Toma Leko, EM Apr. 83, p639-642. Seismic Reliability of Damaged Concrete Beams, M. Shinozuka and R. Y. Tan, ST July 83, p1617-1634. Smooth Indentation of Finite Layer, Leon M. Keer and Gregory R. Miller, EM June 83, p706-717.

Spline Function Method in Vibration Problems, Luo Spine Function Method in vibration Problems, Luo Songfa, Zhang Daming and Wu Zhangzhu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p.255-258.
Stiffness Matrices for Non-Prismatic Members, Noel J.

Everard, Ronald D. Matthys and James E. Leininger, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p379-389.

Stochastic Finite Element Analysis of Simple Beams, Erik Vanmarcke and Mircea Grigoriu, EM Oct. 83,

p1203-1214.

W. Barton and Richard T. Eppink, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p722-725.

Stress Distributions in Higher Strength Concrete Beams, A. Nikaeen and S. E. Swartz, (Recent on Civil Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p549-552.

Schmidt, EM Apr. 83, p654-657.
Thin-Walled Bar Theories, Morris Ojalvo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1992). 1983), p1115-1117

Uniform Element Modeling of Tapered Frame Members, Eryk Kosko, ST Jan. 82, p245-264. Wagner Hypothesis in Beam and Column Theory,

Morris Ojalvo, EM Aug. 81, p669-677.

Finite Beams on Elastic Foundation with Restraints,

Bing-Yuan Ting, ST March 82, p611-621. Lateral Stability of Beams with Initial Imperfections, John J. Zahn, EM June 83, p821-835.

Beams, supports

Elastic Buckling of Laterally Continuous 1-Beams,
Peter F. Dux and Sritawat Kitipornchai, ST Sept. 82, p2099-2116.

Method for Analysis for Guyed Towers, Felix Rosenthal and Richard A. Skop, ST March 82, p543-558.
Orthotropic Beams under Normal and Shear Loading.

Terry D. Gerhardt and Jen Y. Liu, EM Apr. 83, p394-410.

Shear Effect in Beam Stiffness Matrix, Gelu Onu, ST

Sept. 83, p2216-2221. Single-Span Deep Beams, J. E. Barry and Heino Ainso, ST March 83, p646-663.

Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83, p1836-1853.

Timoshenko Beams on Linear Viscoelastic Foundations, Harutoshi Kobayashi and Keiichiro Sonoda,

GG June 83, p832-844.
Torsion Tests of R/C Beams with Large Openings Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1780-1791. Transient Thermal Behavior of Composite Bridges, Carl Berwanger, ST Oct. 83, p2325-2339.

Ultimate Torque of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.

Bearing capacity
Bearing Capacity of Strip Footing above Void, R. L. Baus and M. C. Wang, GT Jan. 83, pl-14.

Concrete Bearing Capacity around Large Inserts,
Edwin G. Burdette, W. Dale Jones and Kenneth E.

Fricke, ST June 83, p1375-1386.
Design Footing Area with Biaxial Bending, Ramon Jarquio and Victor Jarquio, GT Oct. 83, p1337-1341.
Large Diameter Double Underreamed Drilled Shafts, Ray E. Martin and Raymond A. DeStephen, GT Aug. 83, p1082-1098

Aug. 53, proceeds to the Control of Leonards and Bruce Bailey, GT April 82, p517-531. Ultimate Pile Capacity for Eccentric Inclined Load, George G. Meyerhof, A. Sahab Yalcin and Surendra K. Mathur, GT March 83, p408-423.

Uncertainty in Bearing Capacity of Sands, Thomas S. Ingra and Gregory B. Baecher, GT July 83, p899-914.

Elastomeric Bearings: State-of-the-Art, Charles W. Roeder and John F. Stanton, ST Dec. 83, p2853-2871. A Stress-Strain Analysis of Rubber and Steel Composite Bearings, Joel K. Moore and Leonard R Herrmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p734-737.

Bed Load Discharge Coefficient, Peter Engel and Y.

Lam Lau, HY Nov. 81, p1445-1454.

Lam Lau, HY Nov. 81, p1443-1434.
Bedload and Size Distribution in Paved Gravel-Bed Streams, Gary Parker, Peter C. Klingeman and David G. McLean, HY April 82, p544-571.
Interaction between Bed Forms and the Flows that Maintain Them, James D. Smith, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p126

Modified Kinematic Model: Application to Bed Forms, Charles C. S. Song, HY Aug. 83, p1133-1151.

Nonequilibrium Bedload Transport by Steady Flows,
Robert G. Bell and Alex J. Sutherland, HY March 83,

p351-367

Predicting Transport on Beaches: The State of the Art Relative to Rivers, Cyril Galvin, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Primary Rippling of a Flat, Cohesionless Silt Bed, Peter A. Mantz, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p107-112.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N.

Prasad, HY Dec. 82, p1504-1517. Routing Graded Sediments in Streams: Formulations

Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517. Saltation in Water Dynamics, Peter J. Murphy and

Hamid Hooshiari, HY Nov. 82, p1251-1267.
Steady Bed Material Transport in Alluvial Channels,
Gerd Holtorff, HY March 83, p368-384.

Bed load movement

Measured and Computed Coastal Ocean Bedload Transport, Alan William Niedoroda, Chen-Mean Ma, Peter A. Mangarella, Ralph H. Cross, Scott R. Huntsman and Donald D. Treadwell, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1353-1368.

Nonequilibrium Bedload Transport by Steady Flows Robert G. Bell and Alex J. Sutherland, HY March 83,

Statistical Properties of Sediment Movement, Hin-Fatt Cheong and Hsieh-Wen Shen, HY Dec. 83, p1577-1588

Channel Shoaling Prediction: A Method and Application, R. B. Harley and R. G. Dean, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1199-1218.

Bed material

Accuracy of Surface Samples from Gravel Bed Material, Richard D. Hey and Colin R. Thorne, HY June 83, p842-851.

Bed Material Sorting in Pools and Riffles, Nani G. Bhowmik and Misganaw Demissie, HY Oct. 82, p1227-1231

Blench Equilibrium Parameters: Supplementary Data, Walter H. Graf, Huu Hai Cao and James C. Bathurst, HY Oct. 83, p1369-1374.

Development and Prediction of Bed Armoring, Hseih W. Shen and Jau-Yau Lu, HY Apr. 83, p611-629. Flow Resistance in Large Test Channel, Joe C. Willis, HY Dec. 83, p1755-1770.

Measurements of Turbulence over Vortex-Ripple, Masaki Sawamoto, Toshihiko Yamashita and Tadashi Kitamura, (Proceedings of Coastal Engi-neering 82, Vol. I, Billy L. Edge, ed., 1983), p282-296. Primary Rippling of a Flat, Cohesionless Silt Bed, Peter

A. Mantz, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p107-112. Wave Induced Velocities Close to a Rippled Bed, C. G. du Toit, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p312-327.

Bed roughness
Asymmetric Plane Flow with Application to Ice Jams,
Jean-Claude Tatinclaux and Mustafa Gogus, HY
Nov. 83, p1540-1554.

Equivalent Roughness of Alluvial Bed, Leo C. van Rijn,

HY Oct. 82, p1215-1218.
Field Calibration of Stream-Tube Dispersion Model,
Forrest M. Holly, Jr. and Georges Nerat, HY Nov. 83, p1455-1470.

Flow Resistance in Coarse Gravel Bed Rivers, George A. Griffiths, HY July 81, p899-918.

Bedding error

Compression of "Free-Ends" During Triaxial Testing, Robert W. Sarsby, Nikolas Kalteziotis and Essam H. Haddad, GT Jan. 82, p83-107.

Bedforms

Analytical Determination of Form Friction Factor, Muhammad I. Haque and Khalid Mahmood, HY Apr. 83, p590-610.

Blench Equilibrium Parameters: Supplementary Data, Walter H. Graf, Huu Hai Cao and James C. Bathurst,

HY Oct. 83, p1369-1374. Equivalent Roughness of Alluvial Bed, Leo C. van Rijn,

HY Oct. 82, p1215-1218. Flow Depth in Sand-Bed Channels, William R. Brownie, HY July 83, p959-990.

Lower Flow Regime Bedforms: Rational Classification, Timothy R. H. Davies, HY March 82, p343-360. Resistance to Flow in Alluvial Channels, Gerd Holtorff, HY Sept. 82, p1010-1028.

Buckling of Plastic Tubes under Cyclic Bending, Stelios Kyriakides and Ping-Kay Shaw, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p664-667.

Collapse Loads of Nonprestressed R/C Curved Beams, M. A. Mansur and B. V. Rangan, ST Apr. 83,

p993-1009.

Design of Timber Beams: A Graphical Approach, Shan Somayaji, ST Jan. 83, p271-278.

Estimating Correlation between Strength Properties, David W. Green and James W. Evans, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), 9936-939.

General Solution to Bending of Orthotropic Sectors, Carol Rubin, EM Feb. 83, p168-174.

Geometrical Non-Linear Bending of Plates and Shells with Consideration of Loading History, Boris

Bed loads

Krayterman and Gaianan M. Sabnis. (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p714-717.
Helical Tape on Cylinder Subjected to Bending, William R. Spillers, Edward D. Eich, Allan N. Greenwood and Russell Eaton, EM Aug. 83, p1124-

Hybrid-Stress Models for Plate Analysis, Robert L. Spilker, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p834.

Multiple Mode Nonlinear Analysis of Circular Plates,

Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123. A New Mixed-Hybrid Finite Element Model for Static

and Dynamic Analysis of Thin Plates in Bending, Dimitris Karamanlidi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), neering F p238-242.

Orthotropic Beams under Normal and Shear Loading, Terry D. Gerhardt and Jen Y. Liu, EM Apr. 83, p394-410.

Pure and Warping Torsion Analysis of Rigid Frames, Min-Tse Chen and Donald E. Jolissaint, Jr., ST Aug.

83, p1999-2003.

Reinforced Concrete Beams under Bending, Torsion and Shear—A Finite Element Approach, Gerhard Mehlhorn and Gunter Schmidt Gonner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p706-709. Simplified Bending Theory for Wire Rope, George A.

Costello and Gary J. Butson, EM April 82, p219-227. Statistical Study on Compression Flange Plates, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, p404-

417.

Bending moments

Anchored Bulkheads with Sloping Dredge Lines, W. L. Shroeder and Phillippe Roumillac, GG June 83, p845-851.

Bending Moments on Long Partially Submerged Cylinders in Random Seas, I. G. Bryden and C. A. Greated, (Coastal Structures '83, J. R. Weggel, ed., 1983), p393-403. Creep in Continuous Beam Built Span-by-Span, Zdenek

Bazant and Jame Shaujen Ong, ST July 83,

Design of Floor Slabs Coupling Shear Walls, Alexander Coull and Wong Yang Chee, ST Jan. 83, p109-125. Trench Excavation Effects on Adjacent Buried Pipes: Finite Element Study, Provakar Nath, GT Nov. 83, p1399-1415.

Benefit cost analysis

Boundary Element Method Applied to Photoelastic Analysis, Yasushi Mitsui and Shun-ya Yoshida, EM Apr. 83, p619-631.

Columbia Basin Reservoirs Accomplishments, Gordon Columbia Basin Reservoirs Accomplishments, Gordon G. Green, Douglas D. Speers and Thomas L. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p56-75.

Economic Feasibility of Flood Control Improvements, Ralph A. Wurbs, WR Jan. 83, p29-47.

Efficiency, Equity, and Drainage Design, David C. Colony, El Apr. 83, p85-102.

Optimal Cost Control Strategies for Attached Algae, Paumond B. Canale Meetin T. Augr. Vapare.

Raymond P. Canale, Martin T. Auer, Yuzuru Matsuoka, Thomas M. Heidtke and Steven J. Wright, EE Dec. 83, p1225-1242.

Project Evaluation in International Development, Branden B. Johnson, El Apr. 82, p122-132

Benefit cost ratios

Bus Priority Strategy: Justification and Environmental Aspects, A. Essam Radwan and David A. Benevelli,

TE Jan. 83, p88-106.

Economic Feasibility of Flood Control Improvements, Ralph A. Wurbs, WR Jan. 83, p29-47.

Reconstruction vs. New Construction, Stanley L. Maisel and William J. Funge, (Proceedings of Ports

83, Kong Wong, ed., 1983), p42-50.

Borehole Sealing for Underground Waste Storage, Roland Pusch, GT Jan. 83, p113-119.

Container Terminal at Port of Madras - A Case Study, V. Tapasvi, (Proceedings of Ports 83,/n Kong Wong, ed., 1983), p114-128.

Hanovative Designs for Navy Piers, Philip Chow and Harvey Haynes, (Proceedings of Ports 83, Kong Wong, ed., 1983), p442-455.

Modernization of Castle Island Marine Terminal,

Morris S. Levy and David B. Weiner, (Proceedings of Morris 8. Levy and David B. Weiner, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p649-661.

Modifications to Oil Handling Berths at Bayonne, N.J.,
Thomas R. Van Wart and Jeff Easthope, (*Proceedings*

of Ports 83, Kong Wong, ed., 1983), p772-787.

Optimum Number and Capacity of Seaport Berths, Michihiko Noritake and Sakuo Kimura, WW Aug.

83, p323-339.

Biaxial bending L-Shaped Column Design for Biaxial Eccentricity, L N. Ramamurthy and T. A. Hafeez Khan, ST Aug. 83,

p1903-1917.

L-Shaped Reinforced Concrete Column Section, C. T. Thomas Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice. W. F. Chen, et al, eds., 1983), p557-560.

Finite Segment Method for Biaxially Loaded RC Columns, Soliman I. Al-Noury and Wai F. Chen, ST April 82, p780-799.

Bibliographies

Annotated Bibliography on Urban Design Storms, Urban Water Resources Research Council of the American Society of Civil Engineers, 1983, 41pp. Bibliography on Lumber and Wood Panel Diaphragms,

John Peterson, ST Dec. 83, p2838-2852. Shallow Foundation on Frozen Soils: A Bibliography, Committee on Shallow Foundations of the Geotech-

nical Engineering Division of ASCE, GT Feb. 82, p285-291.

U. S. Bridge Engineering: Don't Change Mode of Design Contracting, R. C. Cassano, CE Nov. 83, p6.

Impact of Number of Bidders on Competition, Robert I. Carr, CO March 83, p61-73 Payment Timing as a Factor in Bid Evaluation, Shlomo

Selinger, CO Sept. 83, p335-341. Pre-Bid Discussions with Contractors, CE Jan. 83, p26. Probabilistic Estimating: Mathematics and Applica-tions, James E. Diekmann, CO Sept. 83, p297-308. Public Works Contract, CE Oct. 83, p27.

Re-Bidding, CE Aug. 83, p18.

Temporary Heating in Construction Contracts, Haim Schlick, CO Dec. 83, p447-459.

Bifurcations

Bifurcation Applications in Combined Sewer Regu-lating Devices, Peter J. Tavino, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p572-577.

Bifurcation in Tension of Nonlinear Spherical Caps, Dov I. Shilkrut, EM Feb. 83, p289-295.

INT-Reduction Assays and Control of Sludge Bulking, Charles Logue, Ben Koopman and Gabriel Bitton, EE Aug. 83, p915-923.

Biochemical oxygen demand Most Rapid BOD Assimilation in Ganga and Yamuna Rivers, D. S. Bhargava, EE Feb. 83, p174-178.
Rotating Biological Contactor System Design, Yeun C.
Wu and Ed D. Smith, EE June 82, p578-588.

Comparison of Wastewater Parameters and Estimation of Coefficients for Design, A. Amirtharajah, D. Wayne Kern and Jack L. Helland, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p569-576.

Biofilm

Kinetics of the Rotating Biological Contactor, Khalil Z. Atasi and Jack A. Borchardt, (National Conference on Environmental Engineering, Allen Medine, et al. eds., 1983), p255-263.
Organic Carbon Decay in Stream with Biofilm Kinetics, S. Srinanthakumar and A. Amirtharajah, EE Feb. 83,

p102-119

Wastewater Biofilms: Their Formation and Ultrastructural Characteristics, T. Taylor Eighmy, D. Maratea and Paul L. Bishop, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p247-254.

Biological oxygen demand Comparison of Wastewater Parameters and Estimation of Coefficients for Design, A. Amirtharajah, D. Wayne Kern and Jack L. Helland, (National Conference on Environmental Engineering, Allen Medine,

et al, eds., 1983), p569-576.
Temperature Effects on RBC Scale-Up, Yeun C. Wu, Ed. D. Smith and Chiu Y. Chen, EE Apr. 83,

p321-331.

Biological treatment

Activated Sludge: A Comparison of Oxygen and Air Systems, Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chmn.), 1983, 112pp. Comparison of Wastewater Parameters and Estimation

of Coefficients for Design, A. Amirtharajah, D. Wayne Kern and Jack L. Helland, (National Conference on Environmental Engineering, Allen Medine,

et al, eds., 1983), p569-576.

Design Approach to Dual-Power Aerated Lagoons, Linvil G. Rich, EE June 82, p532-548.

Development of Self-Propelled Aerators, Boris Mikhail Khudenko, EE Aug. 83, p868-885. Predicting Activated Sludge Phosphorus Requirements, Clinton E. Parker and Sallye P. Jones, EE Feb. 83,

p245-249.

Rotating Biological Contactor for Secondary Treat-ment, The Task Committee on Rotating Biological Contactor Water Pollution Management Committee, Environmental Engineering Division, American Society of Civil Engineers, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p929-968. Simulation of Single-Sludge Nitrogen Removal, Bill

Batchelor, EE Feb. 83, pl-16.

Temperature Corrections to Rate Coefficients, R. Wane Schneiter and William J. Grenney, EE June 83,

p661-667.

Model of Mississippi River Pool: Dissolved Oxygen, Alexander C. Demetracopoulos and Heinz G. Stefan, EE Oct. 83, p1020-1034.

Absorption in Manufactured Soil Aggregates, Alamgir M. Hogue and Jose G. Cabrera, TE Nov. 83, p800-814.

The Use of Bitumen in Coastal Structures, Arie P. van Garderen and Gerrit L. M. Mulders, (Coastal Structures '83, J. R Weggel, ed., 1983), p342-355.

Reliability of Basements As Shelters, A. Longinow, N. T. Thomopoulos and J. Mohammadi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p911-914.

Blast loads

Damage Mechanisms in Tunnels Subjected to Explo-sive Loads, Duane A. Labreche, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed.,

1983), p128-141. Design of Protective Structures Against Blast, Shlomo Ginsburg and Uri Kirsch, ST June 83, p1490-1506. Dynamic Response of Buried Concrete Arch to Blast Loading, Ivan Nelson and Chung Gong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p989-992.

A Failure Methodology Based on Shear Deformation, John E. Crawford, T. J. Holland, P. J. Mendoza and R. N. Murtha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), 985-988. Probabilistic Failure of Blast Excited Structures, Dennis

Morrison and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p907-910.

Fracturing of Rock with Expansive Cement, Charles H. Dowding and Joseph F. Labuz, GT Oct. 82, p1288-

Powerhouse, CE June 83, p46-47.

Rock Engineering: La Grande Complex, Quebec, D. Kent Murphy and Jerry Levay, GT Aug. 82, p1040-1055.

Bluffs

Richard J. McCarthy and L. Thomas Tobin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1600-1604.

Rates of Coastal Bluff Retreat: Pismo Beach, California, Donald O. Asquith, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1195-1207.

Shorefront Protection Conflicts upon Implementation, Christopher C. Pierson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1617-1626.

Engineering and Planning Considerations for Boating Facilities Siting on the California Coast, Susan H. Anderson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2859-2865.

Analytical Models for Steel Connections, R. M. Richard, D. A. Rabern, D. E. Hormby and G. C. Williams, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p128-155. Bolted Wood-Joint Yield Model, Thomas E. McLain

and Surot Thangitham, ST Aug. 83, p1820-1835.
High-Strength Bolting: Recent Research and Design
Practice, Peter C. Birkemoe, (Proceedings of the W. H.
Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p103-127. Strength of Anchor Bolts in Grouted Concrete Mason-

ry, Russell H. Brown and A. Rhett Whitlock, ST June

83, p1362-1374. Bond issues

New York's MTA Raises \$8.5 Billion for Mass Transit, Allen Morrison, CE July 83, p42-45.

Rock Sockets in Soft Rock, George H. Glos, III and Oliver H. Briggs, Jr., GT Apr. 83, p525-535.

Boreholes

Borehole Sealing for Underground Waste Storage, Roland Pusch, GT Jan. 83, p113-119.

Vadose Zone Permeability Tests: Summary, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p623-639.

Boring

Seikan Tunnel, Akira Kitamura and Yuzo Takeuchi,

CO March 83, p25-38.

Updating Distribution of Anomaly Size and Fraction,
Wilson H. Tang and A. Saadeghvaziri, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p895-898.

Bottom ash Settling of Coal Ashes, Byung R. Kim, T. -Y. J. Chu and R. J. Ruane, EE Feb. 83, p157-173.

Boundaries, property
The California-National Ocean Survey Marine Boundary Program: 1973-1982, James N. Dowden, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

Location of Railroad Boundaries, Andrew C. Kellie, A. Essam Radwan and Dewey R. Houck, II., SU March 83, p14-23

Regulating the Coast: Jurisdictional Boundaries of the California Coastal Commission, Joe Nicholson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2502-2511.

Boundary conditions
Boundary Conditions in Limited Area Simulation of Tidal Rivers, John P. Glass, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p324-329. Boundary Integral Solutions of Water Wave Problems,

Boundary Integral Solutions of Water Wave Problems, Gerard P. Lennon, Philip L-F. Liu and James A. Liggett, HY Aug. 82, p921-931. Computation of Turbulent Flow Through Constric-tions, Mohan D. Deshpande and Don P. Giddens, EM Apr. 83, p466-478.

Computational Extensions to Implicit Routing Models, Danny L. Fread, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., [983), p343-348.
Finite Beams on Elastic Foundation with Restraints, Bing-Yuan Ting, ST March 82, p611-621.
General Solution to Bending of Orthotropic Sectors, Carol Rubin, EM Feb. 83, p168-174.
Mindlin Plate Analysis by Segmentation Method, Tarun Kant and Ernest Hinton, EM Apr. 83, p521-556.

p537-556.

Single-Span Deep Beams, J. E. Barry and Heino Ainso, ST March 83, p646-663.
Theoretical Considerations on the Smith-Cundall-ET

AL Boundary, Eduardo Kausel and Ziyad H. Duron, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p154-157.

Water-Dam Interaction during Earthquakes, V. Lotfi, J. M. Roesset and J. L. Tassoulas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p291-294.

Boundary element method Boundary Element Method Applied to Photoelastic Analysis, Yasushi Mitsui and Shun-ya Yoshida, EM

Apr. 83, p619-631. Boundary Methods-An Historical Perspective and Modern Developments, J. A. Liggett and P. L. -F. Liu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p362.

Integrated Computer Graphic BEM Analysis System, Renato Perucchio and Anthony R. Ingraffea, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p114-117.
On the Coupling of Finite Element and Boundary Element Methods, J. Bielak, R. C. MacCamy and D. S. McGhee, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p150-153.

Boundary layer

Distribution and Correlation of Dynamic Wind Loads, Timothy A. Reinhold, EM Dec. 83, p1419-1436. General Method for Critical Point on Spillways, Ian R. Wood, Peter Ackers and John Loveless, HY Feb. 83, p308-312.

Measurements of Turbulence over Vortex-Ripple, Masaki Sawamoto, Toshihiko Yamashita and Tadashi Kitamura, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p282-296. The V-Shaped Broad-Crested Weir, Wubbo Boiten and

Remmet H. Pitlo, IR June 82, p142-160.

Wind Effects on Gas-Liquid Transfer Coefficients,
Donald J. O'Connor, EE June 83, p731-752.

Wind Tunnel Design for Physical Modeling of Atmos-pheric Boundary Layers, Jack E. Cermak, EM June 81, p623-642.

Boundary layer flow

Turbulence Effects on Flow Past Circular Cylinder, Kenny C. S. Kwok, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983, p1224-1227. Wind Tunnel Design for Physical Modeling of Atmospheric Boundary Layers, Jack E. Cermak, EM June 81, p623-642.

Boundary shear

Boundary Shear in Smooth and Rough Channels, Donald W. Knight, HY July 81, p839-851. Computation of 3-D Flow and Shear in Open Channels,

Chao-Line Chiu and Gwo-Fong Lin, HY Nov. 83, p1424-1440.

Discharge Assessment in Compound Channel Flow, Peter R. Wormleaton, John Allen and Panos Hadjipanos, HY Sept. 82, p975-994.

Flood Plain and Main Channel Flow Interaction, Donald W. Knight and John D. Demetriou, HY Aug. 83, p1073-1092.

Influence of Corner Shear Layers in Rotating Flows,

Jey K. Jeyapalan, EM Feb. 83, p244-262. Two-Dimensional Channel Flows over Rough Surfaces, Neil L. Coleman and Carlos V. Alonso, HY Feb. 83,

p175-188. Velocity Distribution in Smooth Rectangular Open Channels, Kandula V. N. Sarma, P. Lakshminara-yana and N. S. Lakshmana Rao, HY Feb. 83, p270-289.

Boundary value problems Almansi's Theorems for Anisotropic Solids, Gautam Dasgupta, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p427-430.
Computational Aspects of Strain-Space Plasticity,

Wilfred D. Iwan and Paul J. Yoder, EM Feb. 83, p231-243.

Consolidation Curves for Clays, Eulalio Juarez-Badillo and Benito Chen, GT Oct. 83, p1303-1312. Influence of Corner Shear Layers in Rotating Flows,

Jey K. Jeyapalan, EM Feb. 83, p244-262. Reflection and Transmission of Waves Through Ver-

tical Slit-Type Structures, Shohachi Kakuno, (Coastal Structures '83, J. R. Weggel, ed., 1983), p939-952. Smooth Indentation of Finite Layer, Leon M. Keer and Gregory R. Miller, EM June 83, p706-717.

Wave Interaction with Large Submerged Structures, Henry William Kidman Bird and Robin Shepherd, WW May 82, p146-162.

Finite Element Analysis of a Taxiway Bridge, Alan R. Jefts, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p750-763.

Hyatt-Regency Walkway Collapse: Design Alternatives, George F. W. Hauck, ST May 83, p1226-1234.

Local and Overall Buckling of Welded Box Columns, Tsutomu Usami and Yushsi Fukumoto, ST March 82, p525-542. Box girders

Shear Lag in Box Girders, Bogdan O. Kuzmanovic and H. James Graham, ST Sept. 81, p1701-1712.

Ground Movements Caused by Braced Excavations, Thomas D. O'Rourke, GT Sept. 81, p1159-1178. Lateral Stability of Beams with Initial Imperfections, John J. Zahn, EM June 83, p821-835

Numerical Analysis of Structural Tee X-Bracing, Albert D. M. Lewis and Khosrow Nematollaahi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p490-500.

Plastic Analysis of Laterally Loaded Circular Tubes, Carlos Guedes Soares and Tore H. Soreide, ST Feb. 83, p451-467.

Breakwaters Applications of a Shoreline Prediction Model, Nicholas . Kraus, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p632-645. Breakage of Concrete Armor Units, Dennis G. Markle and D. D. Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2216-2238. Breakwater Protects Asbury Park's Convention Hall, Alfred R. Pagan, (Coastal Structures '83, J. R. Weggel, ed., 1983), p186-192.

Breakwater for Beach Protection at Lorain, OH, Joan

Pope and Darlene D. Rowen, (Coastal Structures '83,

rope and Darlene D. Rowen, (Coastal Structures '83, J. R. Weggel, ed., 1983), p753-768. Construction Sequence Modelling for Harbour Break-water, Roger W. Hendry, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1765-1785.

Erosion Control with Saltmarsh Vegetation, Hollis H. Allen and James W. Webb, (Casstal Zone '83, Orville T. Magoon, et al, eds., 1983), p735-748. Factors of Safety for the Design of Breakwaters, J. D.

Mettam and J. G. Berry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2097-2106. Floating Tire Breakwater Design Comparison, Craig T. Bishop, WW Aug. 82, p421-426.
Forces on a Perforated Breakwater, Constantine D.

Memos and George C. Christodoulou, (Coastal Structures '83, J. R. Weggel, ed., 1983), p573-586.

Gansbaai Fishing Harbour—The Design and Con-struction of a Breakwater on a Hostile Coast, W. S. Van Dijk, A. P. M. Vonk and G. de F. Retief, (Proceedings of Coastal Engineering 82, Vol. II, Billy

L. Edge, ed., 1983), p1716-1732. with Model, B. D. Pratte, D. H. Willis and J. Ploeg, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed.,

1983), p1119-1126. Hollow Block Breakwater Armor Units, A. R. Wilkinson and N. W. H. Allsop, (Coastal Structures '83, J. R. Weggel, ed., 1983), p208-221.

Irregular Wave Tests for Composite Breakwater Foundations, Katsutoshi Tanimoto, Tadahiko Yagyu and Yoshimi Goda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2144-2163.

Laboratory Study on the Influence of Detached Breakwater on Coastal Change, Nobuo Mimura, Takuzo Shimizu and Kiyoshi Horikawa, (Coastal Structures '83, J. R. Weggel, ed., 1983), p740-752. Large Breakwater Toe Failures, A. W. Sam Smith and

Angus D. Gordon, WW May 83, p253-255.

Monitoring of a Dolos Armor Cover; Cleveland, OH, Joan Pope and Denton R. Clark, Jr., (Coastal Structures '83, J. R. Weggel, ed., 1983), p193-207.

A Numerical Model of Wave/Breakwater Interactions,

D. Ian Austin and Roger S. Schlueter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2079-2096

On the Mechanical Strength of Cubic Armour Blocks, Manuel A. G. Silva, (Coastal Structures '83, J. R. Weggel, ed., 1983), p259-271.
Prevention of Shoaling at Port Orford, Oregon, C. E. Chatham, HY Nov. 81, p1303-1316.

Prototype Testing of Dolosse to Destruction, T. Terao, K. Terauchi, S. Ushida, N. Shiraishi, K. Kobayashi

K. Ierauch, S. Ushida, N. Shiraishi, K. Kobayashi and H. Gahara, (*Proceedings of Coastal Engineering* 82, Billy L. Edge, ed., 1983), p2062-2078. Reflection Characteristics of a Wave-Absorbing Pier, Javier Weckman, Gary N. Bigham and Robert O. Dixon, (*Coastal Structures* '83, J. R. Weggel, ed.,

1983), p953-960. Repair to a Dolos Armoured Breakwater, C. W. Glodowski, D. L. Lajoie and Y. Ropars, (Proceedings

of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1733-1744.

Results of Shoreline Erosion Demonstration Program, B. L. Edge and J. G. Housley, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1893-1900. Sediment Transport and Surf Zone Morphodynamics at

Presque Isle, Pennsylvania, Dag Nummedal, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2612-2629.

Sedimentological Influences of Detached Breakwaters, Dov Sergiu Rosen and Michael Vajda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1930-1949.

Some Thoughts on the Future Design of Breakwaters, W. A. Price, (Coastal Structures '83, J. R. Weggel, ed., 1983), p1-2.

Spending Beach Breakwater at Saldanha Bay, Ir. D. Zwemmer and Ir. J. van 't Hoff, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1248-1267.

Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143. Variation of Foreshore Due to Detached Breakwaters,

variation of Forestore Due to Detached Breakwaters, Osamu Toyoshima, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1873-1892. Water-Wave Motion Around a Breakwater on a Slowly Varying Topography, Philip L-F Liu and Ting-Kuei Tsay, (Coastal Structures '83, J. R. Weggel, ed., 1983), p974-987.

Wave Attenuation Due to a Modular Porous Breakwater, E. Benassai, A. Ragone and J. A. Sciortino, (Coastal Structures '83, J. R. Weggel, ed., 1983), p222-234.

Zeebrugge's Main Breakwaters, L. V. Van Damme, (Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1745-1764.

Breeder reactors

Clinch River Breeder Reactor Program-On Target or Not? Morgan I. Doyne and Krista Kotur, CE Aug.

83, p6.

A Comparison of Finite Element J-Integral Evaluations for the Blunt Crack Model and the Sharp Crack Model, Y. C. Pan and J. M. Kennedy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p763-766.

Bridge construction

Bridge Structural Innovation: Firsthand Report, Jackson Durkee, El July 82, p190-201. Brooklyn Bridge, CE June 83, p42-47.

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Record Concrete Box, Girder Spans Houston Ship Channel, Stephen B. Quinn, CE Nov. 83, p46-50. Steel Beats Concrete for Idaho Bridge, Charles Seim,

CE Aug. 83, p28-32.

U. S. Bridge Engineering: Don't Change Mode of Design Contracting, R. C. Cassano, CE Nov. 83, p6. Ultimate Possibility in Long Span Bridging, Prodyot K. Mallick, ST Nov. 83, p2547-2560.

Bridge Deck Overlay Combines Steel Fiber and Latex, CE Apr. 83, p12.

Load Capacity of Concrete Bridge Decks, David B. Beal, ST April 82, p814-832.

Modal Methods in Continuous Bridge Deck Statics,

Antonio G. Zechini, ST June 83, p1507-1517.
Response of Taut Strip Models to Turbulent Wind,
Hiroshi Tanaka and Alan G. Davenport, EM Feb.

82, p33-49. Throgs Neck Bridge: Why Did Its Deck Deteriorate? Benjamin Forsyth and Frank L. Stahl, CE July 83,

p50-52.

Bridge design Autostress Design of Steel Bridges, Geerhard Haaijer, Phillip S. Carskaddan and Michael A. Grubb, ST Jan. 83, p188-199.

Bridge Structural Innovation: Firsthand Report, Jack-

Design of Bridges for Ice Forces, Charles R. Neil, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p156-171. Esthetic Development of California's Bridges, Arthur L.

Elliot, ST Sept. 83, p2159-2174.

FHWA Rules on Alternative Bridge Design, CE July 83, p8

53, ps. Impact Factors for Fatigue Design, Charles G. Shilling, ST Sept. 82, p2034-2044.
Lateral-Distribution Factors for Fatigue Design, Charles G. Schilling, ST Sept. 82, p2015-2033.
New Chicago-Type Bascule Bridge, Henry Ecale and Tsin-Hwei Lu, ST Oct. 83, p2340-2354.
Overpass Blends with Colorado Mountainside, CE Aug.

83, p15.

Recommended Design Loads for Bridges, Committee on Loads and Forces on Bridges of the Committee on Bridges of the Structural Division, ST July 81, p1161-1213.

Record Concrete Box Girder Spans Houston Ship Channel, Stephen B. Quinn, CE Nov. 83, p46-50. Steel Beats Concrete for Idaho Bridge, Charles Seim,

CE Aug. 83, p28-32.

U. S. Bridge Engineering: Don't Change Mode of Design Contracting, R. C. Cassano, CE Nov. 83, p6. U.S. Bridges: The Bias Towards Mediocrity, Rowland Richards, Jr., CE April 83, p62-66. U.S. Coast Guard Delineates Today's Fendering Crisis

and Its Solutions, CE June 83, p20-21.

Bridge failure

An Evaluation of the AASHTO Fracture Control Plan, Stanley T. Rolfe and A. P. Bezzone, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p193-213.

Bridge inspection

Inspection of the Tanana River Pipeline Bridge, Alan Christopherson, William Swigart and Michael Fries, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p362-374.

Bridge maintenance

Bruge Hanteau and Bridge Rehab Covered at Fort Worth Conference, Daniel Dake, CE Aug. 83, p60.
Replacing Corroded Cables on a Cable-Stayed Bridge, Juan Otaola, Jr., CE Sept. 82, p78-80.

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Aeroelastic Simulation of Bridges, Robert H. Scanlan, ST Dec. 83, p2829-2837.
Force-Displacement Behavior of Concrete Bridge,

George E. Ramey, ST Nov. 83, p2600-2618.

Akron Bridge Receives ASCE Award for Unique Design, CE June 83, p64-66.

Bridge Structural Innovation: Firsthand Report, Jackson Durkee, El July 82, p190-201. Celebration Caps Off Brooklyn Bridge Centennial, CE

April 83, p70. Construction Contract, Barge not Part of Bridge, CE

Feb. 83, p16. Elastomeric Bearings: State-of-the-Art, Charles W. Roeder and John F. Stanton, ST Dec. 83, p2853-2871.

Historic Bridges, Peter Stott, CE Oct. 83, p32.
Optimal Strategies for Bridge Replacement, Alberto Garcia-Diaz and Judith S. Lieberman, TE March 83,

Outlook Good for Rehab of Nations Bridges, CE Sept.

83, p20. Pittsburgh Hosts National Bridge Conference, CE April

83, p14 Railroad Overpass and Bridge Revitalize Battle Creek,

CE June 83, p16-18. Recommended Design Loads for Bridges, Committee on Loads and Forces on Bridges of the Committee on Bridges of the Structural Division, ST July 81,

p1161-1213. Spectra of Road Surface Roughness on Bridges,

Hideyuki Honda, Yasuo Kajikawa and Tameo Kobori, ST Sept. 82, p1956-1966. Structures Congress 82, CE Feb. 83, p56-59. Transverse Shear in Multibeam Bridges, Baider Bakht, Leslie G. Jaeger and M. S. Cheung, ST Apr. 83,

p936-949 U.S. Bridges: The Bias Towards Mediocrity, Rowland Richards, Jr., CE April 83, p62-66.

U.S. Coast Guard Delineates Today's Fendering Crisis and Its Solutions, CE June 83, p20-21.

Lateral Load Effect on Strength of Steel Arch Bridge Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449, Ultimate Strength Formula for Steel Arches, Tatsuro Sakimoto and Sadao Komatsu, ST March 83,

p613-627. Bridges, bascule New Chicago-Type Bascule Bridge, Henry Ecale and Tsin-Hwei Lu. ST Oct. 83, p2340-2354.

Bridges, box girder Bridge, CE June 83, p58-59

Bridge Dynamic Tests: Implications for Seismic Design. Bruce M. Douglas and Gary M. Norris, TC Apr. 83,

Record Concrete Box Girder Spans Houston Ship Channel, Stephen B. Quinn, CE Nov. 83, p46-50. Shear Lag in Box Girders, Bogdan O. Kuzmanovic and H. James Graham, ST Sept. 81, p1701-1712.

Temperature Stresses in Composite Box Girder Bridge Walter H. Dilger, Amin Ghali, Mathew Chan, Mo S Cheung and Marc A. Maes, ST June 83, p1460-1478.
Temperature Variations in Concrete Bridges, Mamdouh
M. Elbadry and Amin Ghali, ST Oct. 83, p2355-2374.

Bridges, cable-stayed Cable-Stayed Bridges: Degrees of Anchoring, Ramon E. Gilsanz and John M. Biggs, ST Jan. 83, p200-220. Replacing Corroded Cables on a Cable-Stayed Bridge,

Juan Otaola, Jr., CE Sept. 82, p78-80. Time-Dependent Analysis of PC Cable-Stayed Bridges M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83,

p1980-1996.

Ultimate Possibility in Long Span Bridging, Prodyot K. Mallick, ST Nov. 83, p2547-2560.

Bridges, cantilever

Long-Span Bridge Computer Modeling, Thomas A. Fisher and Ramesh B. K. Rao, ST June 83, p1402-1413.

Ultimate Possibility in Long Span Bridging, Prodyot K. Mallick, ST Nov. 83, p2547-2560.

Bridges, concrete Bridge, CE June 83, p58-59. Circular Voided Concrete Slab Stiffnesses, G. Elliott

and L. A. Clark, ST Nov. 82, p2379-2393.
Force-Displacement Behavior of Concrete Bridge, George E. Ramey, ST Nov. 83, p2600-2618

Incremental Launching of Structures, Wilhelm Zellner and Holger Svensson, ST Feb. 83, p520-537.

Lift System for Raising Continuous Concrete Bridges, George E. Ramey, TE Sept. 83, p733-746. Orientation of Ribs in Waffle-Slab Skew Bridges, John B. Kennedy, ST March 83, p811-816. Seven Mile Bridge and Other Structures Praised for

Concrete Use, CE Jan. 83, p13.

Steel Beats Concrete for Idaho Bridge, Charles Seim,

CE Aug. 83, p28-32. Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83, p1836-1853.

Time-Dependent Analysis of PC Cable-Stayed Bridges, M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83, p1980-1996.

Bridges, continuous

Finite Element Analysis of a Taxiway Bridge, Alan R. Jests, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p750-763.

Force-Displacement Behavior of Concrete Bridge, George E. Ramey, ST Nov. 83, p2600-2618.

Modal Methods in Continuous Bridge Deck Statics,

Antonio G. Zechini, ST June 83, p1507-1517.

Bridges, girder

Computer Aided Optimization of Bridge Girders, B. G. Rabbat and T. Takayanagi, (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr., ed., 1983), p646-659. Chai Hong Yoo and Phillip A. Pfeiffer, ST Dec. 83, p2922-2940. Impact Factors for Fatigue Design, Charles G. Shilling, ST Sept. 82, p2034-2044.

Lateral-Distribution Factors for Fatigue Design, Charles G. Schilling, ST Sept. 82, p2015-2033. Mathematical Programming in Structural Design, Scott

A. Burns and Subramanian Ramamurthy, ST July 83,

Parametric Instability of Curved Girders, Syed Amjad Ali, ST Apr. 83, p829-842. Statistical Study on Compression Butt-Welded Plate,

Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83,

Statistical Study on Steel Plate Members, Sadao Komatsu and Satoshi Nara, ST Apr. 83, p977-992. Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83, p1836-1853.

Transient Thermal Behavior of Composite Bridges, Carl Berwanger, ST Oct. 83, p2325-2339. Ultimate Possibility in Long Span Bridging, Prodyot K. Mallick, ST Nov. 83, p2547-2560.

Bridges, girders Statistical Study on Imperfections of Steel Webs, Sadao Komatsu, Yoshiji Niwa and Eiichi Watanabe, ST Feb. 83, p419-438.

Bridges, highway Bridge Dynamic Tests: Implications for Seismic Design, Bruce M. Douglas and Gary M. Norris, TC Apr. 83, n1-22

Lift System for Raising Continuous Concrete Bridges, George E. Ramey, TE Sept. 83, p733-746.

Performance of Strengthened Highway Bridges, Wal-lace W., Sanders, Jr. and F. Wayne Klaiber, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p174-192.

Timber Bridges: State-of-the-Art, Richard M. Gutkow-ski and Thomas G. Williamson, ST Sept. 83,

p2175-2191.

Transient Thermal Behavior of Composite Bridges, Carl Berwanger, ST Oct. 83, p2325-2339.

Bridges, highways Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus, ed., 1983, 218pp.

Bridges, long span Long-Span Bridge Computer Modeling, Thomas A. Fisher and Ramesh B. K. Rao, ST June 83, p1402-1413.

Ultimate Possibility in Long Span Bridging, Prodyot K. Mallick, ST Nov. 83, p2547-2560.

Bridges, longspan Multimode Bridge Response to Wind Excitations, Y. K. Lin and J. N. Yang, EM Apr. 83, p586-603.

ridges, multi-beam

Transverse Shear in Multibeam Bridges, Baider Bakht, Leslie G. Jaeger and M. S. Cheung, ST Apr. 83, p936-949.

Bridges, piers Clear-Water Scour at Cylindrical Piers, Arved J. Raudkivi and Robert Ettema, HY March 83, p338-

Design Footing Area with Biaxial Bending, Ramon Jarquio and Victor Jarquio, GT Oct. 83, p1337-1341. Elastomeric Bearings: State-of-the-Art, Charles W. Roeder and John F. Stanton, ST Dec. 83, p2853-2871.

New Design Equations for Scour Around Bridge Piers, Christopher James Baker, HY April 81, p507-511. Pier Protection for the Sunshine Skyway Bridge

Replacement, Michael A. Knott and Michael R. Flanagan, (Proceedings of Ports 83, Kong Wong, ed., 1983), p555-569.

Pier Stabilization Eliminates Need to Reconstruct Damaged Bridge, Peter B. Tubbs, CE Nov. 83, p58-59.

Piers on Bridge Permit Thermal Movement and Resistance Against Lateral Forces, CE July 83, p19.

Autostress Design of Steel Bridges, Geerhard Haaijer, Phillip S. Carskaddan and Michael A. Grubb, ST Jan. 83, p188-199.

An Evaluation of the AASHTO Fracture Control Plan, Stanley T. Rolfe and A. P. Bezzone, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al. eds., 1983), p193-213. Fatigue of 8-yr Weathered AS88 Steel Weldment, Pedro

Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-2055. Impact Factors for Fatigue Design, Charles G. Shilling,

ST Sept. 82, p2034-2044. Lateral-Distribution Factors for Fatigue Design, Charles G. Schilling, ST Sept. 82, p2015-2033. Statistical Study on Compression Butt-Welded Plate, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, p386-403.

Steel Beats Concrete for Idaho Bridge, Charles Seim,

CE Aug. 83, p28-32. Strength and Serviceability of Steel Girder Webs, Nigel Cooke, Warren R. Walpole, Peter J. Moss, D. Wayne Langdon and Mervyn H. Harvey, ST March 83, p785-807.

Stress Intensity Factors for Welded Bridge Details, Richard Roberts and John W. Fisher, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p805-808.

Bridges, structures
Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-2065.

Temperature Variations in Concrete Bridges, Mamdouh M. Elbadry and Amin Ghali, ST Oct. 83, p2355-2374.

Bridges, suspension ASCE Names Suspension Bridge National Landmark, CE June 83, p64.

CE June 83, poq.
Award-Winning ASCE Student Chapter Builds Campus
Bridge, CE Sept. 83, p86.
Brooklyn Bridge, CE June 83, p42-47.
Cable-Stayed Bridges: Degrees of Anchoring, Ramon
E. Gilsanz and John M. Biggs, ST Jan. 83, p200-220. Fracture and Fatigue Life Control Design of Bridges, Kohsuke Horikawa, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p801-804. Gravity Stiffness of Classical Suspension Bridges, Alan

Jennings, ST Jan. 83, p16-36. Inspection of the Tanana River Pipeline Bridge, Alan

Christopherson, William Swigart and Michael Fries, (Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p362-374. Lateral Earthquake Response of Suspension Bridges, Ahmed M. Abdel-Ghaffar and Lawrence T. Rubin,

ST March 83, p664-675.
Nonlinear Free Vibrations of Suspension Bridges: Theory, Ahmed M. Abdel-Ghaffar and Lawrence I.

Rubin, EM Feb. 83, p313-329.

Nonlinear Free Vibrations of Suspension Bridges: Application, Ahmed M. Abdel-Ghaffar and Lawrence I. Rubin, EM Feb. 83, p330-345. Old Suspension Bridges Under Renovation, CE July 83,

sponse of Taut Strip Models to Turbulent Wind, Hiroshi Tanaka and Alan G. Davenport, EM Feb.

82, p33-49.
Wind-Induced Response of Golden Gate Bridge, Hiroshi Tanaka and Alan G. Davenport, EM Feb. 83, p296-312.

Bridges, truss
Bridge Impact due to Wheel and Track Irregularities,
Wisiwechai Kuang-Han Chu and Vijay K. Apiwan Wiriyachai, Kuang-Han Chu and Vijay K. Garg, EM Aug. 82, p648-666.
Historic 200-Ton Timber Truss Bridge Rolled to the

Side, CE Apr. 83, p14.

Marine Parkway Bridge Truss Member Replacement, Robert A. Martin and Jerome S. B. Iffland, ST July 83, p1602-1616.

Bridges, wooden Historic 200-Ton Timber Truss Bridge Rolled to the Side, CE Apr. 83, p14. Statistical Analysis of Timber Bridges, Baidar Bakht,

ST Aug. 83, p1761-1779.

Timber Bridges: State-of-the-Art, Richard M. Gutkow-ski and Thomas G. Williamson, ST Sept. 83, p2175-2191.

Brittle failure

Earthquake Resistant Tensile Lap Splices, J. Dario Aristizabal-Ochoa, ST Apr. 83, p843-858. Ice Strength in Brittle and Ductile Failure Modes, Dale

G. Karr and Sankar C. Das, ST Dec. 83, p2802-2811.

An Evaluation of the AASHTO Fracture Control Plan, Stanley T. Rolle and A. P. Bezzone, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al., eds., 1983), p193-213. Microplane Model for Progressive Fracturing, Zdenek

P. Bazant and B. H. Oh, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p956-959.

Broad-crested weirs

The V-Shaped Broad-Crested Weir, Wubbo Boiten and Remmet H. Pitlo, IR June 82, p142-160.

Biological Fouling of Fine Bubble Diffusers: State-of-Art, William C. Boyle and David T. Redmon, EE Oct. 83, p991-1005.

Buckling Analysis of Stiffened Plates and Shells, Abdur Razzaque and Michael D. Mathers, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1083-1086

Buckling of Angles: State of the Art, John B. Kennedy and Murty K. S. Madugula, ST Sept. 82, p1967-1980. Buckling of Beams with Concentrated Moments, Peter Cuk and Nicholas Sr. Trahair, ST June 83,

p1387-1401.

Buckling of Columns with Nonmovable Boundaries, Michael M. Bernitsas and Theodore Kokkinis, ST

Michael M. Bernitsas and Theodore Korkinis, ST Sept. 83, p2113-2128. Buckling of Eccentrically Loaded Curved Panels, Ted T. Sokol, Jr., ST Sept. 83, p2097-2112. Buckling of Four Equal-Leg Angle Cruciform Columns, Erling A. Smith, ST Feb. 83, p439-450. Buckling of Plastic Tubes under Cyclic Bending, Stelios

Kyriakides and Ping-Kay Shaw, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p664-667.

Column Buckling Theory: Historic Highlights, Bruce G. Johnston, ST Sept. 83, p2086-2096. Comparisons of Buckling Load Predictions for a Ring Stiffened Cylinder, Minos Moussouros, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p395-398.

Computational Aspects of Dynamic Stability of Elastoplastic Shells, Lothar Haefner and Kaspar J. William, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p376-379.

Cyclic Behavior and Design of Link Beams, Keith D. Hjelmstad and Egor P. Popov, ST Oct. 83, p2387-

2403. Design of Single Pile Supports for Arctic Pipelines, H. W. K. Bird and K. J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), 525-540. Dynamic Stability of Kelvin-Viscoelastic Column, G.

Ahmadi and P. G. Glockner, EM Aug. 83, p990-999.
Elastic Buckling of Laterally Continuous I-Beams,
Peter F. Dux and Sritawat Kitipornchai, ST Sept. 82,

p2099-2116.

Elastic Critical Loads on Multistory Rigid Frames, Esmat S. Awadalla, ST May 33, pl091-1106. Elastic Stability of Curved Members, Chai Hong Yoo and Phillip A. Pfeiffer, ST Dec. 83, p2922-2940. Elastic Stability of Flexibly Connected Frames, Michael H. Ackroyd and Kurt H. Gerstle, ST Jan. 83, p241-245.

Elastic Stability of I-Beam under Patch Loadings Yoshihiro Takahashi, Sumio G. Nomachi, Shouji Toma and Takashi Mikami, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1126-1129.

Exact Buckling and Frequency Calculations Surveyed, Frederic W. Williams and William H. Wittrick, ST Jan. 83, p169-187.

Extrapolation Techniques for Buckling Loads, Mario

M. Attard, ST Apr. 83, p926-935.
Flexural-Torsional Buckling of Curved Members, Chai Hong Yoo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1118-1121. Imperfection Sensitivity of Cylindrical Shells, B. O.

Almroth and Charles R. Rankin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1071-1074

Inelastic Buckling of Short Plate Stiffeners in Beam-Column Connections, H. A. El-Ghazaly and A. N. Sherbourne, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice.

W. F. Chen, et al, eds., 1983), p1095-1100.

Inelastic Buckling Using the Finite Strip Method, N. S. Mahmoud, D. A. Nethercot and R. J. Plank, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p1101-1104.
Inelastic Lateral Torsional Buckling of Beams, Bruce A. Hollinger and C. P. Mangelsdorf, ST Aug. 81,

p1551-1567.

Inelastic Post-Buckling Analysis of Trusses, Manolis

Papadrakakis, ST Sept. 83, p2129-2147.
Instability of Thin Walled Bars, Terence M. Roberts and Zaven G. Azizian, EM June 83, p781-794.
Large Deflection and Stability of Rigid Frames, Riyad K. Qashu and Donald A. DaDeppo, EM June 83, p765-780.

Lateral Stability of Beams on Seats, Mark A. Bradford and Nicholas S. Trahair, ST Sept. 83, p2212-2215.
Lateral Stability of Beams with Initial Imperfections,
John J. Zahn, EM June 83, p821-835.
Local and Overall Buckling of Welded Box Columns,

Tsutomu Usami and Yushsi Fukumoto, ST March

82, p525-542.

Miter-Type Navigation Lock Gates, Ming Der Cherng,
Michael K. Phang and Chin Hao Chang, ST Oct. 83, p2235-2247.

Multiple Column Curves by Modifying Factors, J. Michael Rotter, ST July 82, p1665-1669. Nonconservative Buckling of Precompressed Columns, Abul K. Azad and Mohammed H. Baluch, EM Apr. 83, p635-639.

Nonlinear Analysis of Liquid Filled Tank, Wing Kam Liu and Dennis Lam, EM Dec. 83, p1343-1357. Optimized Wave Parameter in Fin. Diff. Equations, John Insprucker, III and Anthony N. Palazotto, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p436-453.

Orthotropic Plates under Varying Compression, Ichizou Mikami, ST Jan. 83, p257-261. Post-Buckling Behavior, Alexander Chajes, ST Oct. 83,

p2450-2462

Post-Buckling Behavior of Guyed Towers, George A Costello and James W. Phillips, ST June 83, p1450-

Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83, p1918-1932.

piylo-1932.

Post-Buckling Instability of Steel Beam-Columns,
Masayoshi Nakashima, Takeshi Nakamura and
Minoru Wakabayashi, ST June 83, pi414-1430.

Secondary Warping of Thin-Walled Beams, Toma
Leko, EM Apr. 83, p639-642.

Leko, Em Apr. 83, p639-042.
Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289.
Stability Investigations of Variable Core Sandwich, Piotr A. Wrzecioniarz, EM Dec. 83, p1460-1471.
Statistical Study on Imperfections of Steel Webs, Sadao Komatsu, Yoshiji Niwa and Eiichi Watanabe, ST Esb. 83, p419-439

Feb. 83, p419-438. Stiffener Effects on Torsional Buckling of Columns,

Sven Eilif Svensson and Carsten Munk Plum, ST

March 83, p758-772.

Strength of Double-Row Bolted Web Connections,
James M. Ricles and Joseph A. Yura, ST Jan. 83, p126-142.

Theoretical Model for Collapse of Shear Webs, Cedric Marsh, EM Oct. 82, p819-832. Thin-Walled Bar Theories, Morris Ojalvo, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p1115-1117.
Ultimate Load Testing of Space Trusses, Lewis C.
Schmidt, Peter R. Morgan and Ariel Hanaor, ST

June 82, p1324-1335.

Ultimate Strength Formula for Steel Arches, Tatsuro Sakimoto and Sadao Komatsu, ST March 83,

Wagner Hypothesis in Beam and Column Theory, Morris Ojalvo, EM Aug. 81, p669-677. Wind-Buckling Approach for R/C Cooling Towers, Wolfgang Zerna, Ihsan Mungan and Walter Steffen, EM June 83, p836-848.

Budgeting
Cost and Schedule Controls During Construction,
Jeffrey L. Bessa, (Current Practice in Cost Estimating
and Cost Control, Victor F. Spruill, et al, eds., 1983),

pl87-201.
GSA's New Project Budgeting Procedure, Donald E.
Parker, (Current Practice in Cost Estimating and Cost
Control, Victor F. Spruill, et al, eds., 1983), p45-60.

Building codes

Acceptance Testing of Concrete: Various Plans, Robert B. Rutledge and Luke M. Snell, ST Jan. 83, p143-153. Column Rules of ACI, SSLC and LRFD Compared, Richard W. Furlong, ST Oct. 83, p2375-2386.

Earthquake Resistant Tensile Lap Splices, J. Dario

Aristizabal-Ochoa, ST Apr. 83, p843-858. Intermountain Power Project Seismic Criteria, Robert

P. McBean, Luis E. Escalante and Arthur W. Shively, TC Apr. 83, p73-87.

Moments in Edge Panels of Flat Plate Floors, A. S. Hall

and B. V. Rangan, ST Nov. 83, p2638-2650.

Probability Based Load Criteria: Assessment of Current
Design Practice, Theodore V. Galambos, Bruce Ellingwood, James G. MacGregor and C. Allin Cornell, ST May 82, p959-977. Roof Snow Loads for Structural Design, Michael J. O'Rourke and Ulrich Stiefel, ST July 83, p1527-1537.

Special New York City Buildings Court Planned, CE

Jan. 83, p8. Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83, p1836-1853.

Structural Design Aspects of a Coastal Building Code, Ralph R. Clark, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2285-2299.

Wind Speed-Damage Correlation in Hurricane Fred-eric, K. C. Mehta, J. E. Minor and T. A. Reinhold, ST Jan. 83, p37-49.

Building design

Building Trends: The View from Houston, Gene

Dallaire, CE July 83, p33-38.

Eccentric Bracing in Tall Buildings, Andrew T. Merovich, Joseph P. Nicoletti and Earl Hartle, ST Sept. 82, p2066-2080.

Four Buildings Cited for Energy-Efficient Design, CE Jan. 83, p9-12.

A General Purpose Interactive Design Postprocessor, Stacey E. Soper and Leonard M. Rand, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p287-297.
Infills in Seismic Resistant Building, Vitelmo Bertero and Steven Brokken, ST June 83, p1337-1361.

Internal Pressure and Building Safety, Henry Liu and Patrick J. Saathoff, ST Oct. 82, p2223-2234. Optimum Design of Building Systems, Kevin Z. Truman and Franklin Y. Cheng, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p98-101.

Organization of a Structural Design Database, William J. Rasdorf and Steven J. Fenves, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p559-571.

Probability Based Load Criteria: Assessment of Current

Design Practice, Theodore V. Galambos, Bruce Ellingwood, James G. MacGregor and C. Allin Cornell, ST May 82, p959-977. The Quiet Revolution in Skyscraper Design, Eugene E. Dallair, CE June 83, p54-59. Rehabbing Historic Buildings, CE Oct. 83, p56-59. Underground, CE June 83, p34-37.

Building frames
Elastic Stability of Flexibly Connected Frames, Michael H. Ackroyd and Kurt H. Gerstle, ST Jan. 83, p241-245.

The Quiet Revolution in Skyscraper Design, Eugene E. Dallair, CE June 83, p54-59.

Staggered Shear Panels in Tall Buildings, K. N. V. Prasada Rao and K. Seetharamulu, ST May 83, p1174-1193.

West Coast High-Rise Condo Opts for Ductile Concrete Frame, Craig G. Huntington and Y. C. Yang, CE July 83, p39-41.

Building Construction: More than Inspection Is Needed to Prevent Problems, Albert L. Gouwens, CE June

83, p6. Building Critical-Mode Control: Nonstationary Earth-quake, Jann N. Yang and M. J. Lin, EM Dec. 83,

p1375-1389. Building Trends: The View from Houston, Gene Dallaire, CE July 83, p33-38.

Costs Rise Steadily for Building Construction, CE Dec. 83, p10. Design of Floor Slabs Coupling Shear Walls, Alexander

Coull and Wong Yang Chee, ST Jan. 83, p109-125. Fluctuating Wind Pressures on Low Building Roofs, Theodore Stathopoulos, ST Jan. 83, p266-271

Hysteresis Identification of Existing Structures, Sassan Toussi and James T. P. Yao, EM Oct. 83, p1189-1202. Internal Pressure of Multi-Room Buildings, Patrick J. Saathoff and Henry M. Liu, EM June 83, p908-919.

A New Wind Tunnel for Building Aerodynamics, T. Stathopoulos, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p613-616.

Planning and Organization of Research in Building, A. Warszawski, CO Sept. 83, p261-275. Procedure for Predicting Wind Damage to Buildings, Kishor C. Mehta, James R. McDonald and Douglas A. Smith, ST Nov. 81, p2089-2096.

Progressive Collapse Resistant Design, John L. Gross and William McGuire, ST Jan. 83, p1-15. Taxation, Business "Image", CE Nov. 83, p22. Tolerable Settlement of Buildings, Harvey E. Wahls,

Tolerable Settlement of Buildings, Harvey E. Wahls, GT Nov. 81, p1489-1504.

Torsion Tests of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1780-1791.

Ultimate Torque of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.

Wind Spressures on Low Buildings with Parapets, Theodore Stathopoulos, ST Dec. 82, p2723-2736.

Wind Spresd-Damage Correlation in Hurricane Fred-

Wind Speed-Damage Correlation in Hurricane Fred-eric, K. C. Mehta, J. E. Minor and T. A. Reinhold,

ST Jan. 83, p37-49.

Buildings, non-residential Dynamic Tests of Three Commercial Buildings, Charles A. Kircher, (Recent Advances in Engineering Me-A. Richet, (Actent Autocas in Engineering Practice, W. F. Chen, et al, eds., 1983), p368-371.
Pre-Engineered Metal Buildings: The Story Behind Their Rapid Growth, Donald H. Pratt, CE Apr. 83,

p52-56.

Buildings, office Eccentric Bracing in Tall Buildings, Andrew T. Mero-vich, Joseph P. Nicoletti and Earl Hartle, ST Sept. 82, p2066-2080.

Four Buildings Cited for Energy-Efficient Design, CE Jan. 83, p9-12.

Buildings, residential

Indoor Aldehyde Levels in Nonoccupational Envi-

ronments of a Midwestern Town, Purush K. Terkonda and Shu-Liang Liaw, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p898-903.

Bulk cargo Midstream Mooring Facilities, Gil Chatagnier, (Proceedings of Ports 83, Kong Wong, ed., 1983), p402-414.

Mineral Port Requirements in Northwest Alaska, Derek M. Sherman, (Proceedings of Ports 83, Kong Wong, ed., 1983), p415-426.

The Newest Transshipment Terminal on the Great

Lakes, A. T. Yu, (Proceedings of Ports 83, Kong Wong, ed., 1983), p427-441.

Rehabilitation of a Wharf, H. Thomas Kornegay and Klaus Von Dobeneck, (Proceedings of Ports 83, Kong Wong, ed., 1983), p749-757.

Bulkheads

Anchored Bulkheads with Sloping Dredge Lines, W. L. Shroeder and Phillippe Roumillac, GG June 83,

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038. Corrosion of Steel Sheet Piles in Port Structures, Valery

Buslov, WW Aug. 83, p273-295. Crib Wharf Cargo Dock Over Sunken Tube Tunnel, J. Kenneth Jarboe, (Proceedings of Ports 83, Kong

Wong, ed., 1983), p717-729.

Design of Pressure-Treared Wood Bulkheads, James S. Graham, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p286-294.

Marine Terminal Modifications Port of Albany, New York, David R. Carchedi and David L. Porter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p584-598. Rehabilitation of Failed Steel-Sheetpile Bulkheads.

John S. Horvath and James T. Dette, (Proceedings of Ports 83, Kong Wong, ed., 1983), p178-186. Tidal Erosional Effects on a Bulkhead System, Ronald

M. Noble, Wolfgang H. Roth and Uday K. Patil, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2204-2215. Tiebacks for Waterfront Bulkheads, Brandl Ernest D.,

John S. Davis and Robert C. Houghton, (Proceedings of Ports 83, Kong Wong, ed., 1983), p200-213.
Wide Flange Concrete Sheet Pile Wharves, Alexander Matlin, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p389-401.

Calculation of Coaxial Heated Water Discharge, Michael A. Leschziner and Wolfgang Rodi, HY Oct. 83, p1380-1385.

Buoyant jets

On Prediction of Characteristics for Vertical Plane Buoyant Jets in Stably Linear Stratified Environment, Wei Li and Ching Jen Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1279-1282.

The Transition from a Horizontal Turbulent Buoyant Jet to a Mixing Layer: A Universal Entrainment Model, Gerhard J. Jirka, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p1184-1189.

Buried pipes Cold Weather Effects on Underground Pipeline Failures, G. Hossein Bahmanyar and Tuncer B. Edil, (Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p579-593. Hazards to Marine Pipelines, J. T. Powers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p144-158. Influence of Northern Pipelines on River Crossing Design, E. K. Yaremko and R. H. Cooper, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Junction Stresses in Buried Jointed Pipelines, Singhal and Chian-Lee Meng, TE May 83, p450-461. Lateral Soil Resistance in Soil Pipe Interaction, A. P. S. Selvadurai, J. J. Lee, R. A. A. Todeschini and N. F. Somes, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p259-278.

Load Reductions on Buried Rigid Pipe, Lawrence C.

Rude, TE Jan. 83, p107-123.

Mathematical Modeling of Scour in Streams, David R. Dawdy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p64-69. Pipe Restraints: Design Fallacies, Patrick J. Creegan,

TE Nov. 83, p840-852. Prediction of Vertical Earth Loads on Rigid Pipes, Elmer L. Matyas and John B. Davis, GT Feb. 83. p190-201.

Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear

Structures and Materials, 1983, 56pp.
A Soil Structure Interaction Problem for a Group of Connected Flexible Pipelines, A. P. S. Selvadurai, (Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p199-211.

Stress Analysis of Buried Pipelines, Joseph W. Cardinal and O. Hal Burnside, (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr., ed., 1983), p697-710. Thaw Settlement Analysis for Buried Pipelines in

Permafrost, Kenneth J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p300-325. Trench Excavation Effects on Adjacent Buried Pipes: Finite Element Study, Provakar Nath, GT Nov. 83,

p1399-1415.

Wave-Induced Forces on Buried Pipelines, Gerard P. Lennon, (Coastal Structures '83, J. R Weggel, ed., 1983), p505-518.

Wave-Induced Pressures on Buried Pipelines, Susan H. Davidson, William G. McDougal and Charles K. Sollitt, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p129-143.

Wave-Induced Seepage Effects on a Buried Pipeline, Peter L. Monkmeyer, Pierfrancesco Mantovani and Hugues Vincent, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p519-531.

Dynamic Response of Buried Concrete Arch to Blast Loading, Ivan Nelson and Chung Gong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p989-992.

Bus lanes Impact Study of Bus Lanes in Bangkok, Yordphol Tanaboriboon and Surasak Toonim, TE March 83, p247-256.

Bus priority treatment
Bus Priority Strategy: Justification and Environmental
Aspects, A. Essam Radwan and David A. Benevelli, TE Jan. 83, p88-106.

Bus Stop Location and Design, Michael J. Demetsk and Brian Bin-Mau Lin, TE July 82, p313-327.

Bus terminals

Cost Trade-Off Analysis for Bus Facility Expansion, Wilbert E. Wilhelm and Wyley J. Parks, TE Jan. 83, p124-136.

Bus Maintenance Planning with Computer Simulation, T. H. Maze, George C. Jackson and Utpal Dutta, TE May 83, p389-342

Bus Priority Strategy: Justification and Environmental Aspects, A. Essam Radwan and David A. Benevelli, TE Jan. 83, p88-106.

Accessible Public Transit Alternatives, Robert L. Smith,

Jr., TE Jan. 83, p16-32

Bus Stop Location and Design, Michael J. Demetsky and Brian Bin-Mau Lin, TE July 82, p313-327. Develping Bus Operating Cost Models: A Method-ology, Reggie J. Caudill, Richard A. Kaplan and Anne Taylor-Harris, TE March 83, p273-285.

New York's MTA Raises \$8.5 Billion for Mass Transit, Allen Morrison, CE July 83, p42-45.

Business administration

Management of Small and Medium Sized Civil Engineering Firms, C. Kenneth Giberson, El Jan. 83, p18-20.

Business cycles

A/E Business Hits Record Low for 1982; Optimistic for 1983, CE Feb. 83, p6.

Cables Cable-Stayed Bridges: Degrees of Anchoring, Ramon E. Gilsanz and John M. Biggs, ST Jan. 83, p200-220. Contact-Slip Analysis Using Mixed Displacements, Robert B. Haber and John F. Abel, EM Apr. 83,

p411-429.
Free Vibration of Parabolic Cables, Anestis S. Veletsos and Georges R. Darbre, ST Feb. 83, p503-519.
Guyed Tower with Dynamic Mooring Properties, Denby Grey Morrison, ST Nov. 83, p2578-2590.
A Helical Tape on Cylinder Subjected to Bending, William R. Spillers, Edward D. Eich, Allan N. Greenwood and Russell Eaton, EM Aug. 83, p1124-1133. 1133.

Performance of Cable Trusses under Static Loads, Prem

Krishna, Vijaya K. Gupta, Ashok K. Ahuja and Ashok K. Mittal, ST Jan. 82, p265-282. Periodically Supported Heavy Elastic Sheet, L. T. Watson and C. Y. Wang, EM June 83, p811-820. Reliability Based Design of Cable Elements, Soronadi Rehability Based Design of Cable Elements, Soronaon Nnaji, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p843-846.
Replacing Corroded Cables on a Cable-Stayed Bridge, Juan Otaola, Jr., CE Sept. 82, p78-80.
Tensegric Shell Behavior, Oren Vilnay and Siong S. Soh, ST Aug. 82, p1831-1845.

Cables, ropes
Gravity Stiffness of Classical Suspension Bridges, Alan
Jennings, ST Jan. 83, p16-36.
Inelastic Dynamic Response of Cable Networks,
Manolis Papadrakakis, ST May 83, p1139-1154.

Chue Seck-Hong, WW Aug. 83, p340-349.
Simplified Bending Theory for Wire Rope, George A.
Costello and Gary J. Butson, EM April 82, p219-227.

Brooklyn Bridge, CE June 83, p42-47.

Large Diameter Double Underreamed Drilled Shafts. Ray E. Martin and Raymond A. DeStephen, GT Aug. 83, p1082-1098.

Rock Sockets in Soft Rock, George H. Glos, III and Oliver H. Briggs, Jr., GT Apr. 83, p525-535.

Calcareous soils

Driven Piles in a Granular Calcareous Deposit, Javier Gomez Puyuelo, Javier Sastre and Antonio Soriano, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p440-456.

Model Tests of Piles in Calcarecus Sands, J. F. Nauroy and P. Le Tirant, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p356-369.

Calcium oxide

Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82, p953-965.

Calibration

Calibration Verification and Application of a Two-Dimensional Flow Model, D. Michael Gee, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Field Calibration of Stream-Tube Dispersion Model, Forrest M. Holly, Jr. and Georges Nerat, HY Nov. 83, p1455-1470.

echnique for Calibrating Network Models, Thomas M. Walski, WR Oct. 83, p360-372.

California

California's Seismic Reevaluation of Embankment Dams, Donald H. Babbitt, William J. Bennett and

Dams, Donald H. Babbitt, William J. Bennett and Raymond D. Hart, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p96-112. Coastal Citizens Movements in Japan and California, Harvey A. Shapiro and Thomas A. Zanic, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1803-1822.

Comprehensive Study of the Coast of California, Dan Muslin and Jan Devine, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1142-1152. Enforcement in California's Coastal Regulatory Agen-

cies, Steven A. McAdam, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1666-1693.

Institutional Problems in the Future Management of

the California Coastal Resource Program, Lois Ewen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p252-272.

The Intergovernmental Politics of Coastal Planning, Lowdon Wingo and James A. Fawcett, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1651-1665. TDCs: Planner's Dream or Builder's Nightmare? Jo

Lynn Lambert, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p79-101. Title Settlements in San Francisco Bay Historic Wetlands Using the Land Bank Method, Michael R.

Valentine, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p456-474.

Environmental Assessment in Ontario, Canada, Frederick A. Curtis, UP Nov. 81, p1-17.

Canal construction

A New Panama Canal? George A. Makela, CE April 83, p58-61.

Canal design

A New Panama Canal? George A. Makela, CE April

83, pS8-61.

Parallel Canal Design for Waterfront Development, Frederick W. Morris, IV, Richard S. Tomasello, Damodar S. Airan and Nathan Putchat, EE Feb. 83, p206-218. Three Countries to Study Alternatives to the Panama

Canal, CE April 83, p10.

Frost Inducing Slides on Membrane-Lined Canal Slopes, Chester W. Jones, CE Nov. 83, p68-69. Performance of Granular Soil Covers on Canal Linings,

Chester W. Jones, IR March 83, pl-12.

Salinity Control by Canal Lining: The McElmo Creek
Unit, Colorado, W. Martin Roche and John W.

Davison, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p514-521.

An Alternative to the Peripheral Canal, Gerald T. Orlop, WR March 82, p123-141.

Canal Radial Gate Discharge Algorithms and Their Use, Clark P. Buyalski, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p538-545.

A New Panama Canal? George A. Makela, CE April

83, p58-61. Three Countries to Study Alternatives to the Panama

Canal, CE April 83, p10.

Canopies Acid Rain Model: Canopy Module, Carl W. Chen, Robert J. M. Hudson, Steven A. Gherini, J. David Dean and Robert A. Goldstein, EE June 83, p585-603.

Cantilever

Nonconservative Buckling of Precompressed Columns, Abul K. Azad and Mohammed H. Baluch, EM Apr. 83, p635-639.

Canyons

Case Histories: Construction on Canyon Wall Terrain, Frank W. Pita and B. Louise Woodward, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p1-15.

Cape Formation as a Cause of Erosion on Adjacent

Shorelines, Kenneth Finkelstein, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p620-640. Science and the Designation Process under Federal Coastal Barrier Legislation, Thomas F. McKinney and John C. Kraft, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p697-707.

Capital costs

Capital Budgeting and Getting Involved in Public Works Planning, Helen Bogolubow Desai, CE Sept.

Managing for the Eighties, Walter J. Addison, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p94-99.
New York's MTA Raises \$8.5 Billion for Mass Transit, Allen Morrison, CE July 83, p42-45.

Simplified Estimating Methods for New Technologies, John O. Milliken, Thomas C. Ponder, Jr., John E. Spessard and Cynthia M. Harvey, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p30-44.

Car pools

Carpool Assignment Technique Application, William W. Mann, TE May 83, p380-388.

Carbonate rocks

Lateral Pile Analysis in Weak Carbonate Rocks, A. F. Abbs, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p546-556.

Carcinogens

No Relation Found Between A/C Pipe and Cancer, CE

Potential for Groundwater Attenuation of Mutagenic Compounds from Raw and Spent Oil Shales, Robert E. Hinchee and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et

al, eds., 1983), p744-750.

Rapid Detection of Genotoxic Chemicals in the Environment, I. Cecil Felkner, (National Conference on Environmental Engineering, Allen Medine, et al,

eds., 1983), p204-209.

Career Planning and Personnel Management Debuts, CE Aug. 83, p10.

Constructive Suggestions for Construction Success, Celia Ruiz Tomlinson, CE Jan. 83, p73-76. How Do You Change Employment Successfully? James C. O'Donnell, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p7-15.

Striving for Perfection, Kate Ludemen, CE Oct. 83, p36.

When Enough is Enough, Kate Ludeman, CE Aug. 83, p26.

Cargo

Developing a Risk Management Program for Ports, Suzanne Rogalin, (Coastal Zone '8. Magoon, et al, eds., 1983), p319-335. '83, Orville T.

Optimum Number and Capacity of Seaport Berths, Michihiko Noritake and Sakuo Kimura, WW Aug. 83, p323-339.

Cargo transportation 'CONBATCH' A Container Terminal Concept for the Future, Ernst G. Frankel, (Proceedings of Ports 83, Kong Wong, ed., 1983), p234-240.

Construction Cartels, A. I. B. Pengiran Damit, El Jan. 83, p45-49.

Map Uses, Scales and Accuracies for Engineering and Associated Purposes, Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chmn.), 1983, 168pp.

Case reports
Boston Main Drainage System 100 Years Later, Antoni
J. Zelechowski and Cathy C. Greene, (Pipelines in
Adverse Environments II, Mark Pickell, ed., 1983), p594-606.

Case Histories: Construction on Canyon Wall Terrain, Frank W. Pita and B. Louise Woodward, (Pipelines in

Adverse Environments II, Mark Pickell, ed., 1983), p1-15

Case History: Incorporating Old Pier in New Facility, Frank W. Pita, (Proceedings of Ports 83, Kong Wong, ed., 1983), p299-313.

Central and Southern Florida Project, A. G. Holler and O. C. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p152-165. Earth Reinforced Dams: First in U.S., CE Oct. 83.

EBDA Outfall Meets Challenges of San Francisco Bay, H. B. Tennant, D. G. Gray and O. Fenton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Failure of an Earth Dam: A Case Study, Iqbal H. Khan, GT Feb. 83, p244-259.
Field Measurements of an Earth Support System, C. K. Shen, S. Bang, K. M. Romstad, L. Kulchin and J. S. DeNatale, GT Dec. 81, p1625-1642.

Floating Tyre Breakwaters—A Case History, Robert C. McGregor and Colin H. G. Gilbert, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p1992-2008.

Geotechnical Engineering, Design and Construction, Port of Oakland, Mahmut Otus, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p129-140.

Groundwater Quality in Six Western States, Michael B. Sonnen, Jim L. Thomas and J. C. Guitjens, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p275-281

Ground-Water Quality Modeling as a Management Tool, Lyle R. Silka and Audrey G. Kretschek, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p532-539.

Hazardous Waste Landfill: Some Lessons from New

Jersey, Peter Montague, CE Sept. 82, p53-56 Historical Account of the Construction and Maintenance of Drydock No. 1 Long Beach Naval Shipyard, Long Beach, California, Ross A. Morrison,

(Proceedings of Ports 83, Kong Wong, ed., 1983),

Lehigh Electric Site Superfund PCB Cleanup Case History, Roy C. Peterson, Anthony S. Bartolomeo and Michael H. Corbin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p766-774.

Long-Range Forecasting Highway Construction Costs, Zohar Herbsman, CO Dec. 83, p423-434. Management of On-Site Disposal Systems: Case Study, Jerry Y. C. Huang, EE Aug. 83, p845-858.

Motivation Myths, Realities and Case Histories, Melville Hensey, (Improving Productivity, J. R. King Jr., ed., 1983), p50-66.

ed., 1983), p50-66.
Octagonal Framed Tube Office Building: A Case
History, James S. Notch, ST Dec. 83, p2872-2892.
Optimizing Pier Design by Utilizing Deck Stiffness,
Dennis V. Padron and Stanley M. White, (Proceedings of Ports 83, Kong Wong, ed., 1983), p163-177.

Passive Mine Drainage Treatment: Selected Case Studies, J. David Holm, Michael B. Bischop and Kaman Tempo, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p607-617.

Pile Testing for Waterfront Structures, Arthur J.

O'Brien and Douglas W. Lovell, (Proceedings of Ports 83, Kong Wong, ed., 1983), p495-511.

Pittsfield, MA: Vicon's Waste to Energy Facility, Llewellyn E. Clark and E. B. Mull, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p358-365.
Planning Redevelopment and Modernization-Port of

Oakland, Paul H. Sorensen, (Proceedings of Ports 83, Kong Wong, ed., 1983), p62-73.
Port of Portland Terminal Reconstruction Program,

Margery Post Abbott, (Proceedings of Ports 83, Kong Wong, ed., 1983), p74-83.

A Privately Owned/Operated Reservoir/River System,

William M. Grove, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p166-179.

Probability of Failure from Abnormal Load, Bruce Ellingwood, E. V. Leyendecker and James T. P. Yao,

ST Apr. 83, p875-890.

Responding to an SOS—Save Our Shores, E. R. Heiberg, III, L. A. Duscha and J. H. Lockhart,

(Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2244-2163.

River Ice Jams: Theory, Case Studies, and Applications, Spyridon Beltaos, HY Oct. 83, p1338-1359.

Sand Transport Limits in Coastal Structure Designs, Robert J. Hallermeier, (Coastal Structures '83, J. R.

Weggel, ed., 1983), p703-716. iikan Tunnel, Akira Kitamura and Yuzo Takeuchi,

CO March 83, p25-38.

Shore Protection at Venice: A Case Study, A. Muraca (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1078-1093.

Specifying Offshore Pipe Installation: A Case Study,

Leonard C. Dawson and Bruce A. Bennett, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), n620-638

Stability of Concrete Dam: Case History, William W. Stelle, Dennis I. Rubin and H. Joseph Buhac, EY

Sept. 83, p165-180.

Stormwater Pollution Control: Best Management Practices, E. John Finnemore, EE Oct. 82, p835-851. Stormwater Pollution Control: Structural Measures, E.

John Finnemore, EE Aug. 82, p706-721.

Superfund and the Corps of Engineers, Stanley L.

Carlock, (Emerging Energy/Environmental Trends and
the Engineer, Ronald D. Neufeld, et al, eds., 1983), p40-45

Trident Naval Submarine Base: Planning and Design, John M. Lowe, Jr., UP May 83, p7-20. Wharf Design and Construction - Port of Oakland, George C. Fotinos, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p141-151.

Cash flow

plication of Cost-Flow Forecasting Models, Shlomo Peer, CO June 82, p226-232.

Cold Weather Effects on Underground Pipeline Failures, G. Hossein Bahmanyar and Tuncer B. Edil, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p579-593.

Evaluating External Pipeline Corrosion, William T. Mori and Gerald P. Dupoong, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p387-396.

SWMM Model and Level of Discretization, Nabil A. Zaghloul, HY Nov. 81, p1535-1545.

Mechanics of Static Catenary with Current Loading, Chue Seck-Hong, WW Aug. 83, p340-349.

Beach Evolution Caused by Littoral Drift Barrier, Deva K. Borah and Armando Balloffet, (Coastal Structures

'83, J. R. Weggel, ed., 1983), p690-702. Numerical Modeling of Scour Potential at the Breach of

Numerical Modeling of Scour Potential at the Breach of a Causeway, Yutaka Ochi, Choule J. Sonu and Robert E. Potter, (Coastal Structures '83, J. R. Weggel, ed., 1983), p660-672.
Planning, Analysis, Design and Construction of 5900 Ft. (1800M) Long Causeway for Crude Oil Export, Syed I. Husain, (Proceedings of Ports 83, Kong Wong, ed., 1983), p758-771.

Caverns

Dynamic Computional Analysis of Openings In Jointed Rock, C. H. Dowding, T. B. Belytschko and H. J. Yen, GT Dec. 83, p1551-1566.

Earthquake Response of Caverns in Jointed Rock: Effects of Frequency and Jointing, C. H. Dowding, C. Ho and T. B. Belytschko, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p142-156. Seismic Design of Embankments and Caverns, Terry R.

Howard, ed., 1983, 201pp.

Rates of Coastal Bluff Retreat: Pismo Beach, California, Donald O. Asquith, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1195-1207.

Aeration for Cavitation Protection of Uribante Spillway, H. W. Coleman, A. R. Simpson and L. M. de Garcia, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p438-443.

Aeration Scale Effects, Eric S. Clyde and J. Paul Tullis,

(Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p413-418.

Cavitation in Turbulent Shear Flows: An Overview, Roger E. A. Arndt, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p412.

Cavitation Resistance of Concrete Structures, Ernest K. Schrader, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p419-424.

Prevention of Cavitation on Chutes and Spillways, Henry T. Falvey, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p432-437.
Transient Cavitating Pipe Flow, Victor L. Streeter, HY
Nov. 83, p1407-1423.
A Universal Strouhal Law, Enso Levi, EM June 83,

p718-727.

Cavities

Cavity Expansion in a Dilatant Geological Material, A. P. S. Selvadurai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p447-450.

Cellular Cofferdam for Trident Drydock: Performance, Max D. Sorota, Edward B. Kinner and Mark X. Haley, GT Dec. 81, p1657-1676.

Cement paste Load Induced Cracks in Cement Paste, David Darwin and Emmanuel K. Attioghe, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1051-1054.

Cementation

Seismic Response of Steep Slopes in Cemented Soils, Nicholas Sitar and G. Wayne Clough, GT Feb. 83, p210-227.

Cements

Hydraulic Cement from Fly Ash and Phosphoric Acid, Mustafa Boybay and Turgut Demirel, TE July 83,

Central America

In Search of Ancient Engineers, George F. Sowers, CE Oct. 83, p46-50.

Centrifuge model

Centrifugal Model Tests of Vertical Anchor Plates, Edward A. Dickin and Chun F. Leung, GT Dec. 83, p1503-1525

Centrifugal Modeling of Soil Liquefaction Susceptibility, Kandiah Arulanandan, A. Anandarajah and

A. Abghari, GT March 83, p281-300.

Centrifugal Modeling of Transient Water Flow, Kenneth W. Cargill and Hon-Yim Ko, GT Apr. 83, p536-555.

Dynamic Centrifuge Modeling, K. Arulanandan and A. Anandarajah, (Recent Advances in Engineering Me-

Anandarajan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p626-629. Geotechnical Centrifuges and Earthquake Simulator, Bruce L. Kutter, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p621-625. Shear Strength of Clay in Centrifuge Models, Michael C. B. Duete and Belbert H. G. P. Oberge and Belbert H. G. Chen, 823.

C. R. Davies and Richard H. G. Parry, GT Oct. 83, p1331-1337.

Channel beds

Doundary Shear in Smooth and Rough Channels, Donald W. Knight, HY July 81, p839-851. Transverse Bed Slope in Alluvial Channel Bends, A. Jacob Odgaard, HY Dec. 81, p1677-1694.

Channel Migration and Incision on the Beatton River,

Gerald C. Nanson and Edward J. Hickin, HY March 83, p327-337.

Energy Expenditure in Curved Open Channels, Howard H. Chang, HY July 83, p1012-1022.
Energy Losses and Shear Stresses in Channel Bends, Raul Pacheco-Ceballos, HY June 83, p881-896.
Main Flow Velocity in Short River Bends, H. J. de

Vriend and H. J. Geldof, HY July 83, p991-1011.

Meander Bends of High Amplitude, Gary Parker,
Panayiotis Diplas and Juichiro Akiyama, HY Oct. 83, p1323-1337.

Plan Geometry of River Meanders, Howard H. Chang, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

1983), p133-140.

River-Bend Bank Protection by Submerged Vanes, A. Jacob Odgaard and John F. Kennedy, HY Aug. 83, p1161-1173.

Transverse Bed Slope in Alluvial Channel Bends, A. Jacob Odgaard, HY Dec. 81, p1677-1694.

Channel design

Ship Motions Related to Deep Draft Channel Design, Scott Noble, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2662-2680.

Channel erosion
Bank Erosion by Waves, Nani G. Bhowmik and
Misganaw Demissie, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p195-200. Channel Migration and Incision on the Beatton River,

Gerald C. Nanson and Edward J. Hickin, HY March 83, p327-337.

Factors in Stability of Relocated Channels, James C. Brice, HY Oct. 83, p1298-1313. Mathematical Model for Erodible Channels, Howard

H. Chang, HY May 82, p678-689.
Prototype Experience and Model Studies of Navigation Effects on Inland Waterways, Noel R. Oswalt and Claude N. Strauser, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p201-206.

Accuracy Criteria in Diffusion Routing, Victor Miguel Ponce and Fred D. Theurer, HY June 82, p747-757. Channel Migration and Incision on the Beatton River, Gerald C. Nanson and Edward J. Hickin, HY March 83, p327-337.

Conformal Mapping for Channel Junction Flow, Pashupati N. Modi, Pitamber D. Ariel and Mohan

M. Dandekar, HY Dec. 81, p1713-1733. Difference Methods of Flow in Branch Channel, Zi-Cai Li, Ling-Jia Zhan and Hui-Li Wang, HY March 83, p424-446

Diffusion of Bluff Wall Jets in Finite Depth Tailwater, Nallamuthu Rajaratnam and Joseph A. Humphries, HY Nov. 83, p1471-1486.

Ditch Flow Program, Michael B. Bruce, CE June 83, p60-61.

Energy Losses and Shear Stresses in Channel Bends, Raul Pacheco-Ceballos, HY June 83, p881-896. Energy Losses in Irregular Channels, Ahad K. Kazemi-

pour and Colin J. Apelt, HY Oct. 83, p1374-1379. Finite Analytic Numerical Solution of Two-Dimensional Suddenly Expanded Channel Flow, Ching-Jen Chen and Kuo-San Ho, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1138-1141.

Finite Element Analysis of Discontinuous Channel Flow, Nikolaos D. Katopodes, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1142-1145.

Flood Plain and Main Channel Flow Interaction, Donald W. Knight and John D. Demetriou, HY Aug. 83, p1073-1092.

Geotechnical Perspective on River Bank Instability, James V. Hamel, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p212-217.
Measurement Device Effect on Channel Water Loss,

Thomas J. Trout, IR March 83, p60-71

Prediction of Flow in Channels with Flood Plains, A. O. Demuren, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1212-1215. Stokes Flow in Rough Channels, Nhan Phan-Thien and J. D. Atkinson, EM June 83, p756-764. Turbulent Underflow in a Short Channel of Limited

Depth. Raouf E. Baddour and Harry Abbink, HY May 83, p722-740.

Two-Dimensional Channel Flows over Rough Surfaces Neil L. Coleman and Carlos V. Alonso, HY Feb. 83,

p175-188.

Channel morphology Factors in Stability of Relocated Channels, James C. Brice, HY Oct. 83, p1298-1313.

Channel, stabilization
Design of Habitat Structures for Open Channels,
Fletcher Douglas Shields, Jr., WR Oct. 83, p331-344.

Channel stabilization

Factors in Stability of Relocated Channels. James C. Brice, HY Oct. 83, p1298-1313.

Channelization

Equilibrium Criteria for Channelized Streams, Chester C. Watson and Michael D. Harvey, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p602.

Channels

Flow Resistance in Wide Rectangular Channels, W. R. C. Myers, HY April 82, p471-482.

Modeling Circulation in Depth-Averaged Flow, Victor M. Ponce and Steven B. Yabusaki, HY Nov. 81,

p1501-1518. Reconnaissance Dredged Material Testing in Oregon,

Pamela Moore, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p850-863.

Channels, water ways Carrying Capacity of Flood Plains, Nani G. Bhowmik and Misganaw Demissie, HY March 82, p443-452.

Conformal Mapping for Channel Junction Flow, Pashupati N. Modi, Pitamber D. Ariel and Mohan M. Dandekar, HY Dec. 81, p1713-1733.

Channels, waterways

Channels, waterways
Bedload and Size Distribution in Paved Gravel-Bed
Streams, Gary Parker, Peter C. Klingeman and David
G. McLean, HY April 82, p544-571.
Boundary Shear in Smooth and Rough Channels,
Donald W. Knight, HY July 81, p839-851.

Channel Shoaling Prediction: A Method and Application, R. B. Harley and R. G. Dean, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1199-1218.

Deepening Los Angeles Harbor, Daniel Muslin, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p227-233.

Design of Habitat Structures for Open Channels, Fletcher Douglas Shields, Jr., WR Oct. 83, p331-344. The Effects of Deepdraft Ship Channels on Salinity Intrusion in Shallow Bays, George H. Ward, Jr., (Proceedings of Ports 83, Kong Wong, ed., 1983), p532-542.

Flood Plain and Main Channel Flow Interaction, Donald W. Knight and John D. Demetriou, HY Aug.

83, p1073-1092.
Flow Resistance in Coarse Gravel Bed Rivers, George A. Griffiths, HY July 81, p899-918.

Lower Flow Regime Bedforms: Rational Classification, Timothy R. H. Davies, HY March 82, p343-360.

Mathematical Model for Erodible Channels, Howard H. Chang, HY May 82, p678-689.

Measurement of Hydrographic Parameters in Large Sand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and

Ocean Division, 1983, 81pp. Model of Mississippi River Pool: Mass Transport, Alexander C. Demetracopoulos and Heinz G. Stefan, EE Oct. 83, p1006-1019.

Optimization of Channel Maintenance Expenses, Anatoly B. Hochstein, Ronald Guido and Ivan Zabaloieff, WW Aug. 83, p310-322.

Pass Cavallo, Texas: Case Study of Tidal-Prism Capture, George H. Ward, Jr., WW Nov. 82,

p513-525.
Resistance Equation for Large-Scale Roughness, James C. Bathurst, Ruh-Ming Li and Daryl B. Simons, HY

Dec. 81, p1593-1613.

River Channel Changes: The Lower Mississippi River Below Natchez, Mississippi, Chester C. Watson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p214-226.

Ship Motions Related to Deep Draft Channel Design, Scott Noble, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2662-2680.

Shoaling Processes in Navigable Waters, Task Committee on Causes and Effects of Shoaling of Navigable Waters of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, (James

Waterway, Port, Coastal and Ocean Division, Games Neiheisel, chmn.), WW May 83, p199-221. Wave-Induced Ship Motions in Harbour Entrances—A Field Study, A. C. van Wyk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2681-2699.

Fencing a Bar Chart, John W. Melin and Barry Whiteaker, CO Sept. 81, p497-507.

Chemical grouting

Sewers: Repairing Beats Replacing, Allen Morrison, CE Sept. 83, p60-64.

Underpinning with Chemical Grout, W. C. Pete Parish, Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Chemical oxygen demand Comparison of Wastewater Parameters and Estimation of Coefficients for Design, A. Amirtharajah, D. Wayne Kern and Jack L. Helland, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p569-576.

Light Metal Cation Inhibition in Anaerobic Digestion, Edmund A. Kobylinski and Bruce A. Bell, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p399-402.

Chemical resistant masonry Acid Pickling Tanks Relined to Resist Abuse, CE July 83, p22.

Chemical spills

The Successful Cleanup of Contaminated Groundwater at Woodland Park, Michigan, Albert R. Posthuma, John G. Kraus and Julie A. Rutherford, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p775-782.

Chemical treatment

Acid Pickling Tanks Relined to Resist Abuse, CE July

Chemical-Physical Leachate Treatment, John D. Keenan, R. Lee Steiner and A. Alexander Fungaroli,

Recovery of Waste Treatment Chemicals from Fly Ash, Janet S. Condra and John W. Smith, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p403-410.

Chemical wastes

Arresting a Toxic Plume, Allen Morrison, CE Aug. 83,

p35-37.

Cleanup of the Miami Drum Hazardous Waste Site, Udai P. Singh, Thomas C. Emenhiser, J. I. Garcia-Bengochea and James E. Orban, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p758-765.

Ground Water Pollution Assessment and Control, William E. Kelly, Michael A. Powers and Philip P. Virgadamo, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p556-

560

Incinerator Ship Systems As Viewed from the Coastal Zone, Henry S. Marcus, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p2487-2501. The Role of the Port within the Logistical System Supporting Incinerator Ships, Henry S. Marcus, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Ductile Anchor Bolts for Tall Chimneys, Stephen J. Powell and Anthony H. Bryant, ST Sept. 83, p2148-2158.

A Practical Probabilistic Model, Achintya Haldar and Bilal M. Ayyub, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p948-951. Reliability of Concrete Chimneys under Wind Loading,

A. Kareem and J. Hseih, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p928-931.

Response to Wind Action of 265-m Mount Isa Stack, William H. Melbourne, John C. K. Cheung and Charles R. Goddard, ST Nov. 83, p2561-2577.

Microstructure of Loess Soil in China Relative to Geologic Environment, Gao Guorui, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p121-136.

China, People's Republic of Afloat on the China Sea, Thomas R. Kuesel, Sr., CE Feb. 83, p40-44.

Chlorination

INT-Reduction Assays and Control of Sludge Bulking, Charles Logue, Ben Koopman and Gabriel Bitton, EE Aug. 83, p915-923.

Chlorine

Active Chlorine Distribution in Secondary Effluents, Russell A. Isaac and J. Carrell Morris, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p593-599. Chlorine Inactivation of a DNA-Containing Enteric

Virus, C. C. Churn, G. D. Boardman and R. C. Bates, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p426-432. Disinfection with Chlorine and Chlorine Dioxide, E. Marco Aieta and Paul V. Roberts, EE Aug. 83,

p783-799.

Sunlight and Aeration Effects on Chlorine Residuals, Richard F. McCormick and Dean D. Hatfield, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p600-606.

Circulatio

Calculation of Intake Approach Flow Circulation with Two-Dimensional Finite Elements Model, Dominique N. Brocard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p380-385.

Philadelphia Will Host ASCE's Spring Convention, CE Apr. 83, p68-70.

Civil engineering
The 1979 ASCE Civil Engineering Education Confer-

ence, William E. Saul, El Apr. 83, p127-135. 1982 Essay Contest Winners, CE Jan. 83, p68-69. Announcing Civil Engineering Magazine's 1984 Essay Contest: Do You Plan to Enter?, CE June 83, p66. EPCOT, CE June 83, p38-40.

An Essential Link to Understanding Public Policy Makers, Helen Bogolubov Desai, CE June 83, p104. Stop the World-I Want to Get Off!, John Huston, CE

Dec. 81, p66-67.

Civil engineers
ASCE Salary Survey 1981, Committee on Employment Conditions of the Professional Practice Division of the American Society of Civil Engineers, 1982, 76pp.

The Civil Engineer and the Decay of America's Infrastructure, Anthony J. Bellitto, Jr., CE Dec. 83, p56-57.

Civil Engineers and the Spirit of Participation, Frank Musica, CE Dec. 83, p96.

Civil engineer's Civil Engineer's Responsibility for Highway Safety, David K. Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p196-199.

Civil engineers

The Responsibility of the Civil Engineer, Howard L.

The Responsibility of the Civil Engineer, Howard L. Anderson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p191-192. The Responsibility of the Civil Engineer in Highway Safety, Jack Humphreys, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1982), 1982. 1983), p193-195.

Preventing Cladding Failure, CE Oct. 83, p18. Wind-Induced Cladding Loads in Hurricane-Prone

Regions, Emil Simiu and Martin E. Batts, ST Jan. 83,

Claims

The Construction Manager as Expert Witness, George Anthony Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p73-79.

Proving Claim Damages by Employing Forensic Estimating Techniques, Robert H. Pratt, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p105-118.

Spruill, et al, eds., 1983), p105-118. Time Impact Analysis—Forensic Scheduling, David M. Lee, (Liability in Construction Management, David M. Lee, ed., 1983), p43-55.

Use of Cost Engineering Tools to Establish Damages, James J. O'Brien, (Liability in Construction Management, David M. Lee, ed., 1983), p56-67. The Use of Project Records for Litigation, Edward R. Fisk, (Liability in Construction Management, David M. Lee, ed., 1983), p68-72.

Chemical Clarification of Dredged Material, Paul R. Schroeder and F. Douglas Shields, Jr., EE Apr. 83,

p414-427. Filter Plant Design for Asbestos Fiber Removal, Gary S. Logsdon, Glenn L. Evavold, James L. Patton and Jack Watkins, Jr., EE Aug. 83, p900-914.

New Wastewater Process Cuts Plant Costs 60%, Stan A. Christopher and Russel Titus, CE June 83, p39-41. Simulation of Flow in Rectangular Clarifiers, Emad Imam and John A. McCorquodale, EE June 83, p713-730.

Classification

The Estuaries of Natal: A Method of Classification, J. E. Perry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2300-2307. Lower Flow Regime Bedforms: Rational Classification, Timothy R. H. Davies, HY March 82, p343-360.

Axial Capacity of Steel Pipe Piles in Clay, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p370-388. Cohesive Material Erosion by Unindirectional Current, J. William Kamphuis and Kevin R. Hall, HY Jan. 83,

General Effective Stress Method for Piles in Clay, Robert C. Kirby, Melvin I. Esrig and Benton S. Murphy, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p457-498.

Procedures for Analysis of Laterally Loaded Pile Groups in Soft Clay, Dewaine Bogard and Hudson Matlock, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p499-535.

Does Landfill Leachate Make Clay Liners More Permeable? David C. Anderson, CE Sept. 82, p66-69.

Design Capacity of Slurried Mineral Waste Ponds, W. David Carrier, III., Leslie G. Bromwell and Frank Somogyi, GT May 83, p699-716.

Chemical Profiles in Soft Clays and the Role of Long-Term Diffusion, Robert M. Quigley and Valerie E. Crooks, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p5-18.

Design of Rigid Shafts in Clay for Lateral Load, Harry M. Coyle and Mark W. Bierschwale, GT Sept. 83, p1147-1164.

Friction Capacity of Piles Driven into Clay, Leland M. Kraft, Jr., John A. Focht, Jr. and Srinath F. Amerasinghe, GT Nov. 81, p1521-1541

Geotechnical Characterization of Ohio Valley Soils, David M. Cregger, Peter J. Majeski and Thomas Y. Chang, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p387-404.

Clay structure

Probabilistic Soil Exploration: Case History, Tien H. Wu and Kinfun Wong, GT Dec. 81, p1693-1711.

Chemical Profiles in Soft Clays and the Role of Chemical Profiles in Soft Clays and the Role of Long-Term Diffusion, Robert M. Quigley and Valerie E. Crooks, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p5-18. Consolidation Curves for Clays, Eulalio Juarez-Badillo and Benito Chen, GT Oct. 83, p1303-1312. Correlation Between G, and T, for Kaolinite Clay, G. A. Athanasopoulos and F. E. Richart, GT May 83, 2719.723.

p719-723.

Design of Filters for Clay Cores of Dams, Peter H. Vaughan and Hermusia F. Soares, GT Jan. 82, Drained Axisymmetric Loading of Reinforced Clay, Terence S. Ingold and Keith S. Miller, GT July 83,

Effect of Creep on Shear Modulus of Clays, George A Athanasopoulos and F. E. Richart, Jr., GT Oct. 83,

p1217-1232. Effect of Stress Release on Shear Modulus of Clay

George A. Athanasopoulos and F. E. Richart, Jr., GT Oct. 83, p1233-1245

Effective Stress Capacity Model for Piles in Clay, Leland M. Kraft, Jr., GT Nov. 82, p1387-1404. Embankment Failure on Clay near Rio de Janeiro, J. A Ramalho-Ortigao, Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479

Erosion Resistance of Cohesive Soils, William E. Kelly and Ronald C. Gularte, HY Oct. 81, p1211-1224. Geological Aspects of a Cutting Failure in Clay, Vincent Silvestri, Michel Soulié and Jean Lafleur, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p19-38.

Geotechnical Characterization of Desiccated Clay, Larry J. Mahar and Michael W. O'Neill, GT Jan. 83, p56-71.

An Improved Consolidation Law of Highly Compressive Clays, Ricardo Salazar, Tsu T. Soong and Francis A. Cozzarelli, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1013-1015.

K. OCR Relationships in Soil, Paul W. Mayne and Fred H. Kulhawy, GT June 82, p851-872. Large Diameter Double Underreamed Drilled Shafts, Ray E. Martin and Raymond A. DeStephen, GT

Aug. 83, p1082-1098. Method to Predict Ultimate Compression in Clays, S. Narasimha Rao and K. Kondandaramaswamy, GT Feb. 82, p310-314.

Permeability and Consolidation of Normally Consolidated Soils, A. Mahinda Samarasinghe, Yang H. Huang and Vincent P. Drnevich, GT June 82, Huang a p835-850.

Probabilistic Soil Exploration: Case History, Tien H. Wu and Kinfun Wong, GT Dec. 81, p1693-1711.
Reinforced Clay Subject to Undrained Triaxal Loading,

Terence S. Ingold, GT May 83, p738-744.
Settlement of Raft Foundations, J. Neil Kay and Richard L. Cavagnaro, GT Nov. 83, p1367-1382.
Shear Strength Interpretation for Gulf of Mexico Clays. G. W. Quiros, A. G. Young, J. H. Pelletier and J. H-C Chan, (Geotechnical Practice in Offshore Engineering, Stepehn Wright, ed., New York: ASCE, 1983), p144-165.

Shear Strength of Clay in Centrifuge Models, Michael C. R. Davies and Richard H. G. Parry, GT Oct. 83,

p1331-1337. Side Load Transfer in Driven and Drilled Piles, Michael W. O'Neill, GT Oct. 83, p1259-1266. A Simple Question about Consolidation, John H.

Schmertmann, GT Jan. 83, p119-122.

Stability of Axisymmetric Excavations in Clay, Arul M. Britto and Osamu Kusakabe, GT May 83, p666-681. Static Plate Loading Tests on Overconsolidated Clay Knut H. Andersen and Per Stenhamar, GT July 82, p918-934

Stress History and Strength of Stiff Offshore Clays, Charles C. Ladd and Amr S. Azzouz, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p65-80.

Swell of Wyoming Montmorillonite and Sand Mixtures, Mehmit A. Sherif, Isao Ishibashi and B. W. Medhin,

GT Jan. 82, p33-45.

Yield Boundary for Cyclic Loading of a Silty Clay, A. F. L. Hyde and S. J. Ward, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p99-110.

Client relationships
The CM's Liability to the Client—Malpractice, Charles R. Holton, (Liability in Construction Management, David M. Lee, ed., 1983), p22-29. Integration of Client/Contractor Project Control, James

F. Warren and Richard A. Mazzini, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p224-235.

Climatic changes Climate Trends Due to Increasing Greenhouse Gases, J. Hansen, A. Lacis and D. Rind, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2796-2810. Revised Rainfall Frequency Analysis for Houston, Tracey C. Bouvette, Jeff L. Lambert and Philip B.

Bedient, HY April 82, p515-528.

Water Requirements and Man-Induced Climate Change, George H. Hargreaves, IR Sept. 81, p247-

Estimating Potential Evapotranspiration. George H. Hargreaves and Zohrab A. Samani, IR Sept. 82, p225-230.

Climatology

Aerodynamic Coefficients and Risk-Consistent Design,

Emil Simiu, ST May 83, p1278-1289.
Estimation of FAO Evapotranspiration Coefficients,
Donald K. Frevert, Robert W. Hill and Bruce C. Braaten, IR June 83, p265-270.

Ground Snow Loads for Structural Design, Bruce Ellingwood and Robert Redfield, ST Apr. 83, p950-964

Short-Term Records and Extreme Wind Speeds, Emil Simiu, James J. Filliben and James R. Shaver, ST

Nov. 82, p2571-2577.

Tennessee Valley Extreme Wind Speed Climatology,
Donald W. Newton, M. Lawrence Nicodemus and Nathaniel B. Guttman, HY Aug. 83, p1093-1107.

Clogging
Head Loss at Soil-Drain Envelope Interfaces, David W.
Miller and Lyman S. Willardson, IR June 83, p211-220.

Closed conduit flow

Air Voids at Downshaft-Tunnel Bends, Barry T. Goldring, HY Feb. 83, p189-198.

Closed form solutions

Asymptotic Solution for Dam Break on Sloping Channel, Bruce Hunt, HY Dec. 83, p1698-1706.

Guidelines for Cloud Seeding to Augment Precipitation, Committee on Weather Modification of the Irrigation and Drainage Division, IR March 83, p111-182.

Design of Carbon Beds to Remove Humic Substances, M. C. Lee, J. C. Crittenden, V. L. Snoeyink and M. Ari, EE June 83, p631-645.

A Dynamic Control Strategy for Water Treatment, Paul J. Ossenbruggen, Gordon Kraft and Farrid Bosli,

(National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p89-96.
Mixing Effects on Coal Processing Waste Treatment,
William R. Knocke and Letitia P. Jones, EE Dec. 83, p1295-1310.

Removal of Organic Priority Pollutants by Oxidation-

Coagulation, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, EE Feb. 83, p36-46. A Study of Ozone-Induced Coagulation, Mirat D. Gurol and Michael Pidatella, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p118-124.

Cost Model of Industrial Fluidized Bed Boilers, John D. Keenan and Mark Maguire, EY June 83, p113-

Reconversion to Coal Firing at Crystal River, Robert P. McBean and Ronald J. Ott, EY Nov. 82, p155-168. The Role of Coal in the Attainment of Energy Self-Sufficiency in Small Pacific Islands, Marcelino K. Actouka, (Coastal Zone '83, Orville T. Magoon, et A. Actoura, (constitution of constitution), et al, eds., 1983), p985-996.

Settling of Coal Ashes, Byung R. Kim, T. -Y. J. Chu and R. J. Ruane, EE Feb. 83, p157-173.

Coal gasification Comparison of Coal Gasification and Combustion Residues, Ralph R. Turner and Philip D. Lowry, EE Арг. 83, р305-320.

Heat Conduction through Layered Refractory Linings, Oral Buyukozturk and Tsi-Ming Tseng, EM Aug. 83,

The Impact of PSD Requirements for a Mione Mouth Coal Gasification Project, Theodore Reynolds Smith, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al. eds., 1983), p.1-4.

Modeling Leachates at Landfill Boundaries, Haydar Erdogan and Ronald D. Neufeld, EE Oct. 83, p1181-1194.

Coal handling
Australian Coal Terminal Operates Happily Beside
Residential Area, Gary Goldstein, CE Dec. 83, p34-37

Export Coal Facilities: Potential Transportation and ceedings of Ports 83, Kong Wong, ed., 1983), p314-328.

Some Western U. S. Coal Export Issues, Ray S. Hansen, (Proceedings of Ports 83, Kong Wong, ed., 1983), p329-342.

Coal mine wastes

Mixing Effects on Coal Processing Waste Treatment, William R. Knocke and Letitia P. Jones, EE Dec. 83, p1295-1310.

Coal mining

Groundwater Effects of Surface Mining in North Dakota, M. R. Fujioka and T. E. Rosengreen, (Advances in Irrigation and Drainage, John Borrelli, 1983), p36-43.

ed., 1963), 200-5. Legal Control of Disruption of Aquifers Due to Coal Mining, George H. Davis, Advances in Irrigation and Dariange, John Borrelli, ed., 1983), p105-112. Mixing Effects on Coal Processing Waste Treatment, William R. Knocke and Letitia P. Jones, EE Dec. 83,

p1295-1310.

Post Surface Mining Drainage Basin Water Quality: Relationship to Mining and Reclamation Practice, Areal Disturbance, and Time, Paul S. Dickens, Roger A. Minear and Raymond R. Rose, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p625-634.

Coal storage Australian Coal Terminal Operates Happily Beside Residential Area, Gary Goldstein, CE Dec. 83, p34-37.

Prevention of Acid Drainage from Stored Coal, Harvey Olem, Tracey L. Bell and Jeffery J. Longaker, EY June 83, p103-112.

Coal transport Coal Terminal, CE June 83, p60-61.

Coal-Transhipment Facilities: A Regulatory Guide, B. William Garland, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1041-1051. Environmental Aspects of an Offshore Coal Terminal, David Atkin and Andrew T. Zador, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p997-1014. Export Coal Facilities: Potential Transportation and Port Handling Techniques, Paul D. Cribbins, (Proceedings of Ports 83, Kong Wong, ed., 1983), 3314-328 p314-328.

Interstate Transfer of Water for Coal Pipelines, Dean T. Massey, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p98-104.

Marine Facilities Maximize Efficiency at Coal Ter-

minal, CE Aug. 83, p14.

Modernization of Conrail's Pier 124, Frank J. Tencza,
(Proceedings of Ports 83, Kong Wong, ed., 1983), p635-648.

pojo-5-48.

The Role of Coal in the Attainment of Energy Self-Sufficiency in Small Pacific Islands, Marcelino K. Actouka, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p985-996.

Saline Water Use Prospects: Colorado River, Michael B. Bessler, IR June 83, p221-231.

Some Western U. S. Coal Export Issues, Ray S. Hansen, (Proceedings of Ports 83, Kong Wong, ed., 1983), p329-342.

Transportation Issues Facing Coal Power Plant Development, G. John Kurgan, (Emerging Energy/Envi-ronmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p24-28.

Transportation Strategies for Export Coal Terminals in the Coastal Zone, Paul D. Cribbins, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1015-1031. Use of Global and Local Analysis Methods in the

Structural Design of De Long Piers, Francois Brucker and Daniel Finifter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p152-162.

Coastal engineering
Application of Cafe to the Irish Sea, Fonda L. Thompson and Yasuo Onishi, (Frontiers in Hydraulic

inompson and Yasuo Onishi, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 9369-374. Boundary Integral Solutions of Water Wave Problems, Gerard P. Lennon, Philip L-F. Liu and James A. Liggett, HY Aug. 82, p921-931. Coastal Engineering and Construction in Japan, Boyd C. Paulson, Jr., WW Feb. 81, p11-26. Coastal Engineering in South Africa, K. S. Russell, (Proceedings of Coastal Engineering 82 Bills I. Edwa

(Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p2322-2331. Coastal Pollution from Septic Tank Drainfields, Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82,

p1265-1279.

Coastal Zone '83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp.
Coastal Zone Management and Energy Development:
Who Pays the Price? Ronald Ritschard and Edward Kaplan, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p61-78.
Comparison of Manual Wave Prediction Models, Craig

T. Bishop, WW Feb. 83, pl-17.
Environment in Coastal Engineering: Definitions and Examples, Cyril Galvin, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2264-2284.

Fixed and Floating Axisymmetric Structures in Waves, Michael de St. Q. Isaacson, WW May 82, p180-199.

Michael de St. Q. Isaacson, WW May 82, p180-199. Floating Tire Breakwater Design Comparison, Craig T. Bishop, WW Aug. 82, p421-426. Holland's Fight Against the Sea, Alexander Danilevsky, CE April 83, p50-53. Multiple-Use Conflicts in a Growing Economy, Andrew A. Dzurik, UP Sept. 83, p79-93. Natural Wave Trains and Scattering Transform, Rodney J. Sobey and Errol J. Coleman, WW Aug. 82, p272-299. p272-290.

Oregon's New Coastal Research Initiative, Robert F. Tarrant and George W. Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1302-1309. Proceedings of Coastal Structures '83, J. Richard

Weggel, ed., 1983, 1012pp.
Proceedings of the Eighteenth Coastal Engineering

Conference, Billy L. Edge, ed., 1983, 2780pp. Regionalism, the New Federalism, and Coastal Zone Management in the 1980's, David A. Veshosky, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p52-60. Sediment Yields in Coastal Southern California, Brent

D. Taylor, HY Jan. 83, p71-85. Shorefront Protection Conflicts upon Implementation, Christopher C. Pierson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1617-1626.
TDCs: Planner's Dream or Builder's Nightmare? Jo

Lynn Lambert, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), p79-101. Three-Dimensional Marine Models for Impact Studies, Jacques C. J. Nihoul and Francois C. Ronday, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p745-764.

Tidal Computation on Taiwan Strait, Fuh Yin and Sen-Ho Chen, WW Nov. 82, p539-553.

Undeveloped Coastal Barriers Photographic Inventory, James B. Johnston, Raymond D. Filbey and Gary A. Shelton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2402-2412. Wave Power Estimates Utilizing Ocean Wave Spectra,

John M. Niedzwecki, EY Dec. 83, p222-235.
Wind-Wave Growth with High Friction, Fred E.
Camfield, WW Feb. 83, p115-117.

Balancing Development and Environmental Concerns in the Coastal Zone of New Jersey, Gary L. Bickle, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1120-1135.

California's Coastal Protection Constituency: Conserving a Critically Valuable Resource, Ruth Galanter, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p548-558. Coastal Zone 83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp. Coastal Zone Management on the West Coast: An Evaluation, Richard G. Hildreth and Ralph W. Johnson, (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983), p231-251.

The Commons Concept and Coastal Management, N.

Bartlett Theberge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p448-455. Consistency: Current Issues, Catherine A. McCord, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1289-1301.

Enforcement in California's Coastal Regulatory Agencies, Steven A. McAdam, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1666-1693.

Evaluation of Washington State's Coastal Management Program, Maureen McCrea, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2858.

The Evolution and Implementation of Legislation for

Coastal Zone Management in a Developing Country -The Sri Lankan Experience, S. R. Amarasinghe and H. J. M. Wickremeratne, (Coasial Zone 83, Orville T. Magoon, et al, eds., 1983), p2822-2841. Federal Consistency-Practice and Potential, Jack Archer, (Coasial Zone '83, Orville T. Magoon, et al,

eds., 1983), p1278-1288.

Improving Coastal Decisions by Committee Training, Helene Tenner and Scott Brumburgh, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p559-564. Institutional Problems in the Future Management of the California Coastal Resource Program, Lois Ewen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p252-272.

The Intergovernmental Politics of Coastal Planning, Lowdon Wingo and James A. Fawcett, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983, p.1651-1665.

Managing Coastal Conflict: A Federal Permit Role?
Radford S. Hall, (Coastal Zone 83, Orville T.
Magoon, et al, eds., 1983), p.1136-1141.

Mitigation: A Workable Tool for Coastal Development.

Daniel D. Heagerty, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p1052-1069. Mitigation Measures Management Plan for Coastal Zones, Alan Zada and Michael Whaley, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p1070-1081.

The Question of Mitigation, Ronald D. Gatton, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

(Coastat Zone 33, Orville 1. Magoon, et al, eds., 1983), p1105-1119.

Responding to an SOS—Save Our Shores, E. R. Heiberg, III, L. A. Duscha and J. H. Lockhart, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2244-2163.

Status of Remote Sensing for Coastal Zone Manage-ment, Douglas Stow and John Estes, (Coastal Zone

ment, Douglas Stow and John Estes, (Coastal Zone 733, Orville T. Magoon, et al, eds., 1983), 9565-574. A Ten-Year Reunion with the Oregon Coastal Management Program: A Need to Evaluate, Don Oswalt and Neal Coenen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p226-230.

Coastal morphology
Changes in the Coastal Morphology of Vrachati,
Greece, C. I. Moutzouris and A. J. Rogan, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L.
Edge, ed., 1983), p1028-1045.

Morphological Reactions of Tidal Systems Due to Nearshore Construction Works, R. Dieckmann, H. W. Partenscky and H. Schwarze, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2494-2503 A Process-Response Model for Hurricane Washovers,

John R. Suter, Dag Nummedal, Amy K. Maynard and Paul Kemp, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1459-1478.

Castal plains
California Coastal Salt Marsh Restoration Design,
Philip B. Williams and H. Thomas Harvey, (Coastal
Zone '83, Orville T. Magoon, et al, eds., 1983),

Coastal processes

Barrier Beach Features of California, Hugh Converse,
(Proceedings of Coastal Engineering 82, Vol. II, Billy
L. Edge, ed., 1983), p1008-1027.

Bestection Devices—A Review, D. N. Foster,
L. Bestection Devices—A Review, D. R. Bestection Devices A Review, D. R. Bestecti

Coastal Protection Devices—A Review, D. N. Foster, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p1857-1872. Environment in Coastal Engineering: Definitions and Examples, Cyril Galvin, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2264-2284. Hydraulic Considerations in Modernizing Ports, Chester A. Peyronnin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p373-378.

Wong, ed., 1983), p.3/3-3/8.

Laboratory Study on the Influence of Detached Breakwater on Coastal Change, Nobuo Mimura, Takuzo Shimizu and Kiyoshi Horikawa, (Coastal Structures '83, J. R. Weggel, ed., 1983), p.740-752. Littoral Problems in the Portuguese West Coast, I. B. Mota Oliveira, A. J. S. F. Valle and F. C. C. Miranda,

MOIS ORVEITS, A. J. S. F. Valle and F. C. C. Miranda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1950-1969. Movable-Bed Modeling Law for Coastal Dune Erosion, Steven A. Hughes, WW May 83, p164-179. The Nearshore Sediment Transport Study, Richard J. Seymour, WW Feb. 83, p79-85. Proceedings of Coastal Structures '83, J. Richard Wessel ed. 1983 1012 pp.

Proceedings of Coastal Structures of A. Accuracy
Weggel, ed., 1983, 1012pp.
Proceedings of the Eighteenth Coastal Engineering
Conference, Billy L. Edge, ed., 1983, 2780pp.
Properties of the Mediterranean Coastal Rock-Soil
Units Relative to Regional Control, A. Komornik and G. Hayati, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p433-446. The Regulation of Shoreline Structures, William K.

Allayaud, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1607-1616.

The Use of a GIS for Gulf of Mexico Wetland Change,

James B. Johnston and Robert R. Ader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p362-371.

Coastal structures

Blufftop Setbacks—A Regulatory Impossibility? Richard J. McCarthy and L. Thomas Tobin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1600-1604.

Coastal and Ocean Management (H-6), John S. Hale,

(Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2387-2401.

Coastal Engineering and Construction in Japan, Boyd C. Paulson, Jr., WW Feb. 81, p11-26.

Coastal Protection Devices—A Review, D. N. Foster, Coastal Protection Devices D

(Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p1857-1872.

Design for Ice Forces, Stan R. Caldwell, ed. and Randy
D. Crissman, 1983, 218pp.

Design of Coastal Structures for Recreational Purposes, G. H. O'Connell, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2514-2533.

Design of Port and Coastal Structures for Ice Forces,

Dennis Nottingham and Brent T. Drage, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p54-68.

Design of Toe Protection for Coastal Structures, James

W. Eckert, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p331-341.

Engineering Approach to Nonlinear Wave Shoaling, James Walker and John Headland, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p523-542.

1983), p.22-5-94.
Evaluation of the Visual Effects of the Coastal Zone, Akio Kuroyanagi and Takeo Kondo, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p.2222-2240.
Morphological Reactions of Tidal Systems Due to Nearshore Construction Works, R. Dieckmann, H. W. Partenscky and H. Schwarze, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2494-2503.

PRIP—Individual Risk Rating for Coastal Areas, Francis V. Reilly, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2631-2649.

Proceedings of Coastal Structures '83, J. Richard

Weggel, ed., 1983, 1012pp.
Proceedings of the Eighteenth Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp.
The Regulation of Shoreline Structures, William K.

Allayaud, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1607-1616.

eds., 1983), p1607-1616.
Siting of Coastal Dependent Industrial Facilities in California, Naida Smith West, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2706-2724.
Structural Design Aspects of a Coastal Building Code, Ralph R. Clark, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2285-2299.
A Survey of Man-Made Tidal Swimming Pools Along the South African Coast, D. E. Bosman and D. J. P. Scholtz. (Proceedings of Coastal Engineering 82, Billy Venceedings of Coastal Engineering 83, Billy Venceedings of Coastal Engineering 83, Billy Venceedings of Coastal Engineering 84, Billy Venceedings of Coastal Engineering

Scholtz, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2504-2513. Wave Forces on Piles of Variable Diameter, Bernard

LeMehaute, James Walker, John Headland and John Wang, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1800-1819.

Code Comparisons of Factor Design for Wood, James R. Goodman, Zsolt Kovacs and Jozsef Bodig, ST Aug. 81, p1511-1527.

Coefficients

Estimation of FAO Evapotranspiration Coefficients, Donald K. Frevert, Robert W. Hill and Bruce C. Braaten, IR June 83, 265-270. Lateral Response of Fixed-Head Pile, Prabhakar J. Pise,

GT Aug. 83, p1126-1131.

Cellular Cofferdam for Trident Drydock: Performance, Max D. Sorota, Edward B. Kinner and Mark X. Haley, GT Dec. 81, p1657-1676.

Axial Capacity of Steel Pipe Piles in Sand, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p389-402. Endochronic Description of Sand Response to Static Loading, Han C. Wu and T. P. Wang, EM Aug. 83, p970-989.

Prediction of Vertical Earth Loads on Rigid Piper Elmer L. Matyas and John B. Davis, GT Feb. 83, p190-201. Repetitive Load Deformation of Cohesionless Soil, Vishnu A. Diyaljee and Gerald P. Raymond, GT Oct. 82, p1215-1229.

Cohesive sedi

Characterization Tests for Cohesive Sediments, Ashish J. Mehta, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p79-84. Cohesive Material Erosion by Unindirectional Current, J. William Kamphuis and Kevin R. Hall, HY Jan. 83,

p49-01. Cohesive Sediment Properties and Transport Processes, Ray B. Krone, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p66-78. Consideration of Cohesive Sediment Transport in Estuarial Water Quality Management, Earl J. Hayter, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p606.

ed., 1903), poul.

Resuspension of Deposited Cohesive Sediment Beds,
Ashish K. Mehta and Emmanuel Partheniades,
(Proceedings of Coastal Engineering 82, Vol. II, Billy
L. Edge, ed., 1983), p1569-2588.

Two-Dimensional Model of Mud Transport, Peter Cole

and Gordon V. Miles, HY Jan. 83, p1-12.

Cohesive soils

Critical Reappraisal of Plasticity Index of Soils, T. S. Nagaraj and M. S. Jayadeva, GT July 83, p994-1000. Effect of Stress Release on Shear Modulus of Clays, George A. Athanasopoulos and F. E. Richart, Jr., GT Oct. 83, p1233-1245.

Erosion Resistance of Cohesive Soils, William E. Kelly and Ronald C. Gularte, HY Oct. 81, p1211-1224 Incipient Motion of Cohesive Soils, M. Krishnamurthy,

(Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p96-101.

Optimum Moisture Content for Compacting Soils: One-Point Method, I. H. Hamdani, IR June 83, p232-237.

Rate Process Parameters for Erosion and Shear, William E. Kelly, Richard M. Heavers and Gregory Gardner, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p102-106. Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82, p953-965.

Cold regions

Arctic Pipeline River Crossings—Design Trends and
Lessons Learned, Wim M. Veldman, (Pipelines in

Lessons Learned, Wim M. Veldman, (Pipelines in

Mark Pickell ed. 1983). Adverse Environments II, Mark Pickell, ed., 1983), p70-83.

Cold Regions Concreting, J. Derle Thorpe, Jules Houde, Bruce A. Suprenant, Valery Tokar and Harold B. Wenzel, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p59-71. Cold Regions Earthwork, R. G. Tart, Jr., (Cold Regions

Construction, Darryl F. Jordan, et al, eds., 1983),

p32-37.

Cold Regions Safety, Wayne Hibblen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p95-117.

Computer Modelling of Ice Jams, E. Allen Churchill, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p267-272.

Conference Focuses on Cold Regions, CE Sept. 83, p12. Dartmouth: First to Open Cold Regions Research Lab,

Dartmouth: First to Open Cold Regions Research Lau, CE Nov. 83, p18.

Design of Offshore Pipelines for Ice Environments, W. J. Timmermans, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New Yorkin ASCE, 1983), p69-98.

Facility Designs in the Arctic for the Kuparuk Pipeline.

System, Victor Manikian, Kenneth J. Nyman and U. System, Victor Mannian, Keinlett S. Hyman and C. J. Baskurt, (*Pipelines in Adverse Environments II*, Mark Pickell, ed., 1983), p84-107.

Oil Rigs Designed to Combat Arctic Ice, Ben C. Gerwick, Jr., CE Dec. 83, p38-41.

Overview: Introduction to Cold Region Construction,

C. Preston Locher, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p1-10. Pile Construction Practices in Arctic Regions: Stateof-the-Art, Dennis Nottingham, Alan B. Christopherson and John L. Larsen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p38-58.
Preparation of Equipment for Cold Regions, George B.

Jenks, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p11-23.

Shallow Foundations in Cold Regions: Design, Edward C. McRoberts, GT Oct. 82, p1338-1349.

Slurry Pipeline Operations in Cold Regions—Some

Aspects, Anders Sellgren, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p682-693.

Stability of Arctic Gravity Structures, Vitoon Vivatrat and Brian J. Watt, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p267-287.

Water Supply Lines in the Arctic and Subarctic, Robert Alan Haviland, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p694-703.

Cold weather construction Analysis of Frozen Sand Beams, Robert K. Wen, Sweanum Soo and Orlando B. Andersland, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p790-793.

Cold Regions Concreting, J. Derle Thorpe, Jules Houde, Bruce A. Suprenant, Valery Tokar and Harold B. Wenzel, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p59-71.

Cooling Curve Prediction of Asphaltic Concrete, R. Kenneth Wolfe, George L. Heath and David C. Colony, TE Jan. 83, p137-147.

Ice and Snow Utilization in Cold Regions Construction, Kelly Crick and John D. McClellan, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p24-31.

Overview: Introduction to Cold Region Construction, C. Preston Locher, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p1-10.

Quality Assurance for Cold Regions Construction, Fred W. Hays, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p72-94.

Temporary Heating in Construction Contracts, Haim Schlick, CO Dec. 83, p447-459.

Cold weather operations

Cold weather operations:

Cone Penetration Testing in the Beaufort Sea, Michael
G. Jefferies and Erik Funegard, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New
York: ASCE, 1983), p220-243.

Heat Loss from Rapid Infiltration Basin in Winter,
Heinz G. Stefan, EE Feb. 82, p141-158.

Cold-formed steel

Cold-Formed Steel Panels with Riveted Connections, Muzaffer Yener and Richard White, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p565-568.

Connection Spacing Criteria in Cold-Formed Steel, Muzaffer Yener, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1105-1108. Limit Design in Cold-Formed Steel, Muzaffer Yener and Teoman Pekoz, ST Sept. 83, p2033-2047.

Coliform bacteria

Coastal Pollution from Septic Tank Drainfields, Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82, p1265-1279.

Microbial Dynamics in GAC Filtration of Potable Water, Charles N. Haas, Michael A. Meyer and Marc S. Paller, EE Aug. 83, p956-961.

Collapse of Plate Girders under Edge Loading, Terence M. Roberts and Chooi K. Chong, ST Aug. 81, p1503-1509.

Collapse of the Hyatt Regency Walkways—Implica-tions, G. A. Leonards, CE Apr. 83, p6. Collapse of the Kansas City Hyatt Regency Walkways, Edward O. Pfrang and Richard Marshall, CE July 82, p65-69.

Hyatt-Regency Walkway Collapse: Design Alterna-tives, George F. W. Hauck, ST May 83, p1226-1234.

Interactive Collapse Analysis: Design Decisions, Mi-chael Ackroyd, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p122-125.

On the Evaluation of Collapse Probabilities, M. J. Grimmelt, G. I. Schueller and Y. Murotsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p859-862.

Overpass Collapse Blamed on Falsework, CE Apr. 83,

Theoretical Model for Collapse of Shear Webs, Cedric Marsh, EM Oct. 82, p819-832.

Two Possible Causes Cited for Ramp Collapse, CE Jan. 83, p8.

Collapse load
Collapse Loads of Laced Columns, Sven Eilif Svensson

and Jan Kragerup, ST June 82, p1367-1384.
Collapse Loads of Nonprestressed R/C Curved Beams,
M. A. Mansur and B. V. Rangan, ST Apr. 83, p993-1009

Collapse of Thick Wall Pipe in Ultra Deep Water, Edward A. Verner, Carl G. Langner and Michael D. Reifel, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p159-187.
Flexural Strength of Square Spread Footing, Da Hua

Jiang, ST Aug. 83, p1812-1819.
Ultimate Torque of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.

Collapse loads Simulation of Collapse Loads for Arbitrary Shells, wilfried B. Kratzig and Udo Wittek, (Recent Adwarces in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1087-1090.

Collapsible soils
Alluvial Fan Hazards at Glenwood Springs, R. G. Mock and S. L. Pawlak, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983),

Collective bargaining

Craft Jurisdiction Impact on Construction, Boyd C. Paulson, Jr. and John W. Fondahl, CO Dec. 83, p369-386.

Development and Stability of Colluvium in Nashville, Lawrence C. Weber and L. E. Wilson, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p234-245.

Colorado

Water Quality Standards in Colorado, Tad Foster, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p158-165.

Integrated Sizing of Water Storage and Conveyance, David E. Fleming, Roger K. Hanson and John W. Labadie, WR Jan. 83, p94-111.

Saline Water Use Prospects: Colorado River, Michael

B. Bessler, IR June 83, p221-231.
Salinity Control by Canal Lining: The McElmo Creek
Unit, Colorado, W. Martin Roche and John W.
Davison, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p514-521.

Salinity Reduction Impact on Irrigated Agriculture, Jim Riley and Michael J. Mickelson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p503-513.

Columbia Basin Reservoirs Accomplishments, Gordon G. Green, Douglas D. Speers and Thomas L. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p56-75.

Multiple Column Curves by Modifying Factors, J. Michael Rotter, ST July 82, p1665-1669.

Column strength

Behavior of Steel Columns: A Comprehensive Treat-ment, Reidar Bjorhovde and Wai-Fah Chen, (Pro-ceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p85-102

End Restraint Effect on Steel Column Strength, Zia

Razzaq, ST Feb. 83, p314-334.

Analytical Model for Concrete Confinement in Tied Columns, Shamim A. Sheikh and S. M. Uzumeri, ST Dec. 82, p2703-2722.

Behavior and Design of Reinforced and Composite

Behavior and Design of Keintorcea and Composite Concrete Structures, Soliman I. Al-Noury and Wai F. Chen, ST June 82, p1266-1284. Buckling of Angles: State of the Art, John B. Kennedy and Murty K. S. Madugula, ST Sept. 82, p1967-1980. Buckling of Columns with Nonmovable Boundaries, Michael M. Bernitsas and Theodore Kokkinis, ST

Sept. 83, p2113-2128.

Buckling of Four Equal-Leg Angle Cruciform Columns, Erling A. Smith, ST Feb. 83, p439-450. Column Buckling Theory: Historic Highlights, Bruce G. Johnston, ST Sept. 83, p2086-2096. Column Rules of ACI, SSLC and LRFD Compared,

Richard W. Furlong, ST Oct. 83, p2375-2386. Finite Segment Method for Biaxially Loaded RC Columns, Soliman I. Al-Noury and Wai F. Chen, ST

April 82, p780-799.

L-Shaped Column Design for Biaxial Eccentricity, L.
N. Ramamurthy and T. A. Hafeez Khan, ST Aug. 83, p1903-1917. L-Shaped Reinforced Concrete Column Section, C. T.

Lesnapeu Remioreed Contrete Column Section, C. Thomas Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p557-560.

Multiple Column Curves by Modifying Factors, J. Michael Rotter, ST July 82, p1665-1669.

Nonconservative Buckling of Precompressed Columns, Abul K. Azad and Mohammed H. Baluch, EM Apr. 82, e435-540.

83, p635-639.

Nonlinear Elastic Frame Analysis by Finite Element, Robert K. Wen and Jalil Rahimzadeh, ST Aug. 83,

p1952-1971.

Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83, p1918-1932.

Reliability Analysis of Reinforced Concrete Columns Based on ACI 318-77, Chandrasekhar Putcha and Faramarz Mokri-Argane, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p932-935.

Restrained Crooked Aluminum Columns, Jacques Chapuis and Theodore V. Galambos, ST March 82,

p511-524.

Stiffener Effects on Torsional Buckling of Columns, Sven Eilif Svensson and Carsten Munk Plum, ST

March 83, p758-772

Stiffness Matrices for Non-Prismatic Members, Noel J. Everard, Ronald D. Matthys and James E. Leininger, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p379-389.

hin-Walled Bar Theories, Morris Ojalvo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1115-1117.

Columns, effective length
Restrained Crooked Aluminum Columns, Jacques Chapuis and Theodore V. Galambos, ST March 82, p511-524.

Columns, supports

Design of Vertical Chords in Deepwater Platform,

Wai F Chen ST Nov. 83, Shouji Toma and Wai F. Chen, ST Nov. 83, p2733-2746.

External Pressure and Sectional Behavior of Fabricated Tubes, Shouji Toma, Wai F. Chen and Lyle D. Finn, ST Jan. 82, p177-194.
Geometric Nonlinearities in Nonsway Frames, ShuMing A. Lai, James G. MacGregor and Jostein Hellesland, ST Dec. 83, p2770-2785. Geometric Nonlinearities in Unbraced Multistory

Geometric Nonlinearities in Undraceu mutusuory Frames, Shu-Ming A. Lai and James G. MacGregor, ST Nov. 83, p2528-2545. Lateral-Load Tests of R/C Slab-Column Connections, Denby G. Morrison, Ikuo Hirasawa and Mete A. Sozen, ST Nov. 83, p2698-2714.

Post-Buckling Behavior of Guyed Towers, George A. Costello and James W. Phillips, ST June 83, p1450-

Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289. Small End Restraint Effects on Strength of H-columns, Hironori Sugimoto and Wai F. Chen. ST March 82. p661-681.

Wagner Hypothesis in Beam and Column Theory, Morris Ojalvo, EM Aug. 81, p669-677.

Analysis of Flooding in the 12 Towns Sewer System, Bruce E. Holbrook and Philip B. McCallister, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p566-571.

Automatic Control Strategies for Combined Sewer

Systems, Markos Papageorgiou, EE Dec. 83, p1385-

1402

Bifurcation Applications in Combined Sewer Regulating Devices, Peter J. Tavino, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p572-577. Old Sewer Line Restored, Leaving Historic Site Intact,

CE April 83, p13-14.
Radar Rain Forecasting for Wastewater Control,
Christine Damant, Geoffrey L. Austin, Aldo Bellon,
Mohamad Osseyrane and Nam Nguyen, HY Feb. 83, p293-297.

Stormwater Pollution Control: Structural Measures, E.

John Finnemore, EE Aug. 82, 9706-721.

Transient Mixed-Flow Models for Storm Sewers, C. S. Song, James A. Cardle and Kim Sau Leung, HY Nov. 83, p1487-1504.

Combined stress

Ice Strength in Brittle and Ductile Failure Modes, Dale G. Karr and Sankar C. Das, ST Dec. 83, p2802-2811. Orthotropic Plates under Varying Compression, Ichizou Mikami, ST Jan. 83, p257-261.

Comparison of Coal Gasification and Combustion Residues, Ralph R. Turner and Philip D. Lowry, EE Apr. 83, p305-320.

Communication

How to Improve Conventions and Oral Presentations, Naomi Becker and Roland Pettitt, CE Dec. 83, p6. Project Management Communications, Raynold O. Folland, El Jan. 83, p39-44.

Spotting Communication Static: Nonverbal Ways to Improve Oral Presentations, Hugh M. Aberman, CE

June 83, p62-65.
Upgrading Written Communication: Your Firm's and Your Own, Gary D. Bates, El Jan. 83, p26-38.

Communication syste

Advisory Notes on Lifeline Earthquake Engineering, The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (William J. Hall, chmn.), 1983, 232pp.

Community development Community Participation on California's Coast, Peter S. Brand, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2655-2663.

Correlates of Community Development, Albert Schaffer and Ruth C. Schaffer, (Accomplishments and

Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p45-55.

Water Quality Impacts Associated with Residential Development in the Coastal Zone Areas of Atlantic County, New Jersey, Gary L. Bickle, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2739-2753.

Community relations

Involvement of Engineers in Public Affairs, Milton Mortman, El Oct. 82, p251-262.

A Time for Engineers to be Involved in Their Communities, Frank Musica, CE July 83, p112.

Community support Involvement of Engineers in Public Affairs, Milton Mortman, El Oct. 82, p251-262.

Commuting patterns
Perceived Factors Affecting Driver Route Decisions,
Manouchehr Vaziri and Tenny M. Lam, TE March 83, p297-311.

Predicting Transit Ridership in Response to Transit Service Changes, Frank S. Koppelman, TE July 83, p548-564.

Compaction Compaction and Related Properties of Retorted Oil Shale, Wesley G. Holtz, GT Oct. 83, p1246-1258.

Comparative studies

Code Comparisons of Factor Design for Wood, James R. Goodman, Zsolt Kovacs and Jozsef Bodig, ST Aug. 81, p1511-1527.

Stability Investigations of Variable Core Sandwich, Piotr A. Wrzecioniarz, EM Dec. 83, p1460-1471.

Management Compensation in the Construction Industry, Ralph Beck, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p23-27.
Personnel: Recruiting, Motivating, Rewarding, 1983, 87pp.

COPFAES: An Enduring Acronym and an Effective

Alliance, Frank Musica, CE Apr. 83, p116.
A Dynamic Communication Technique for Civil Engineers, Samuel Y. Ng, CE Dec. 83, p55-56. Impact of Number of Bidders on Competition, Robert . Carr, CO March 83, p61-73.

Is There a Bid for Services in Your Future? Rita

Robison, CE Sept. 83, p40-44. Pre-Bid Discussions with Contractors, CE Jan. 83, p26. Re-Bidding, CE Aug. 83, p18.

Composite beams

Composite vicanis
Dynamic Response of a Multilayer Bimodulus Beam,
A. A. Sarhangnezhad and V. I. Weingarten, (Proceedings of the Eighth Conference on Electronic
Computation, James K. Nelson, Jr., ed., 1983), p467-479

Strength of Composite Beams at Web Openings, William C. Clawson and David Darwin, ST March

82, p623-641.

Composite materials Circular Plates of Rectangular Orthotropy, Chai Hong Yoo and Jao-Shiun Kao, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p423-426.

Couple Stress Model of Composite Material Moduli, Surinder K. Lakhanpal and Robert M. Hackett, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1040-1042.

Energy Release Rates Using a Peach-Koehler Concept, G. Omoike and C. R. Vilmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p483-486.

Nonlinear Shear Material Model for a Multilayer Shell Finite Element, A. A. Sarhangnezhad and V. I. Weingarten, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p243-246.

Numerical Studies in Homogenization of Periodic Composites, Akhilesh Maewal, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p507-510.

Residual Strength of Impacted SMC Composites, Shive K. Chaturvedi and Robert L. Sierakowski, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p495-498.

Statistical Properties of Hybrid Composites, D. G.

Harlow, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p499-502.

A Stress-Strain Analysis of Rubber and Steel Composite Bearings, Joel K. Moore and Leonard R Herrmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p734-737.

Composite structures

Behavior and Design of Reinforced and Composite Concrete Structures, Soliman I. Al-Noury and Wai F.

Chen, ST June 82, p1266-1284.
Building Trends: The View from Houston, Gene
Dallaire, CE July 83, p33-38.
Cylindrical Shells of Bimodulus Composite Materials,

Charles W. Bert and V. Sudharkar Reddy, EM Oct.

82, p675-688.

Impact Response of Buckled Composite Laminates, J. K. Chen and C. T. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Mathematical Programming in Structural Design, Scott

A. Burns and Subramanian Ramamurthy, ST July 83.

Membrane Theory for Layered Ellipsoidal Shells, Daryl L. Logan and Moujalli Hourani, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p774-777.

On Stress Singularities in Laminated Composites, F. Delale, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p491-494.

Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143.
Stability Investigations of Variable Core Sandwich, Piotr A. Wrzecioniarz, EM Dec. 83, p1460-1471.
Strength of Composite Beams at Web Openings, William C. Clawson and David Darwin, ST March 82, p623-624.

82, p623-641.

Temperature Stresses in Composite Box Girder Bridges, Walter H. Dilger, Amin Ghali, Mathew Chan, Mo S. Cheung and Marc A. Maes, ST June 83, p1460-1478.

Pathogen Survival during Static Pile Composting of Municipal Wastewater Sludge, Paul L. Bishop, William R. Chesbro and Gail R. Zamarchi, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p381-390.

Prequalification and Testing of Compost Screens, John G. Stroka, Richard K. Perna, Harvey A. Brodsky, David R. Kindig and Amy L. Nabut, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p724-730.

Soil Conditioning Effects of Municipal Sludge Compost, A. C. Chang, A. L. Page and J. E. Warneke, EE June 83, p574-583.

June 83, p574-583.

Compression
Orthotropic Plates under Varying Compression, Ichizou Mikami, ST Jan. 83, p257-261.

The Strength and Behavior of Steel-Fiber Reinforced Concrete under Combined Tension-Compression Loading, Roger W. Meier, Hon-Yim Ko and Stein Sture, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p952-955.

Tension Stiffening and Compression Softening in Concrete, Linda Leibengood, David Darwin and Robert H. Dodds, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p103-1046.

Practice, W. F. Chen, et al, eds., 1983), p1043-1046.

Compression index

Universal Compression Index Equation, Oswald Rendon-Herrero, GT Nov. 80, p1178-1200.

Compression tests

Method to Predict Ultimate Compression in Clays, S. Narasimha Rao and K. Kondandaramaswamy, GT Feb. 82, p310-314.

Computation

Inelastic Post-Buckling Analysis of Trusses, Manolis Papadrakakis, ST Sept. 83, p2129-2147. Non-Center Line Layout, Frank Pearson, SU March 83,

p24-36

Steady-State and Transient Responses of Linear Structures, Anestis S. Veletsos and Ashok Kumar, EM Oct. 83, p1215-1230.

Computer aided drafting Integrating CAI in CE Courses at the USAF Academy, Dennis R. Topper, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p182-185.

Computer aided drafting (CAD)

A/Es Pack Dallas Computer Show for Designers, CE Sept. 83, p12.

Evaluating CADD Systems, Gregory L. Bloom, CE Feb. 83, p30-33.

Computer aided instruction
Computer Graphics Aided Instruction of Structural
Engineering, Victor E. Saouma and Ronald G.
Hoelzeman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p209-222.

Integrating CAI in CE Courses at the USAF Academy, Dennis R. Topper, (Proceedings of the Eighth Con-ference on Electronic Computation, James K. Nelson,

Jr., ed., 1983), p182-185.

Computer analysis Analysis of Partially Erected Structures, John L. Gross and Degan G. Hambacher, (Proceedings of the Eighth

Conference on Electronic Computation, In James K. Nelson, Jr., ed., 1983), p298-311.

Damage Analyses of Imperial County Services Building, R. Shepherd and A. W. Plunkett, ST July 83, p1711-1726.

An Energy Method for Nonlinear Struct. Analysis, Rudolph Szilard, (Proceedings of the Eighth Confer-ence on Electronic Computation, James K. Nelson, Jr.,

ed., 1983), p390-403.
Small Hydroelectric Development Computer Analysis,
Peter W. Soltys, (Frontiers in Hydraulic Engineering,
Hung Tao Shen, ed., 1983), p406-411.

Computer applications
\$1 Billion Needed for Computer Education, CE Jan. 83,

Computer Based Testing of Dynamic Response, Thomas Glebas, Levon Minnetyan and Gordon B. Batson, (Recent Advances in Engineering Mechanics and Their

Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p589-592.

Computer Method in Hydraulics, Zeng Bong-Ming, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p591-592.

Computers in Civil Engineering Practice, Steven J. Fenves, TC May 82, p44-52.

Computers in the Future of Structural Engineering, Steven J. Fenves, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p1-8. Conference Looks at the Future of Computer-Structural

Interaction, CE Jan. 83, p80.

Introductory Manual on Computer Services (M&R No. 61), Committee on Coordination within ASCE of the ol), Committee on Coordination within ASCE of the Technical Council on Computer Practices of the American Society of Civil Engineers, 1983, 78pp. LISP-A CAD System Programming Language, Neal M. Holtz and William J. Rasdorf, TC Apr. 83, p58-72. The Microcomputer and Pipeline Transients, E. Benjamin Wylie, HY Dec. 83, p1723-1739.

Minicomputers in Structural Optimum Design, Bogdan O. Kuzmanovic and Nicholas Willems, CE May 82, p37.94

p82-84.

Optimization Methods in Structural Design Practice, Andrew B. Templeman, ST Oct. 83, p2420-2433. Probabilistic Estimating: Mathematics and Applica-

tions, James E. Diekmann, CO Sept. 83, p297-308.

Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983, 784pp. Teaching C. E. Students to Use Computers, J. H. Appleton and E. T. Miller, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p172-181.

Computer graphics

A/Es Pack Dallas Computer Show for Designers, CE

Sept. 83, p12. Computer Color Animation of Hydrodynamic and Transport Modal Predictions, Charles Libicki and Keith W. Bedford, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p585.
Computer Graphic Boundary Element Analysis,
Renato Perucchio and Anthony R. Ingraffea, (Pro-

ceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p422-435.

Computer Graphics Aided Instruction of Structural Engineering, Victor E. Saouma and Ronald G. Engineering, Hoelzeman, Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p209-222.

Computer Graphics for 3D Structural Analysis, John F. Abel, William McGuire and Anthony R. Ingraffea. (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p594-607.

Computer Graphics in a Finite Element Course, Mark S. Shephard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p197-208.

Computer Graphics in the Development of an Automatic Three-Dimensional Mesh Generator, Mark S. Shephard, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p110-113. Computer Graphics—Where Are We Going? Barry M.

Flachsbart, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p9-14.

A Dynamic Communication Technique for Civil Engineers, Samuel Y. Ng. CE Dec. 83, p55-56. Evaluating CADD Systems, Gregory L. Bloom, CE Feb. 83, p30-33.

Fencing a Bar Chart, John W. Melin and Barry Whiteaker, CO Sept. 81, p497-507.
Integrated Computer Graphic BEM Analysis System,

Renato Perucchio and Anthony R. Ingraffea, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p114-117.

Interactive Collapse Analysis: Design Decisions, Michael Ackroyd, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p122-125.

Interactive Graphics for Design of Piping Systems, John F. Fleming, Theodore J. Batt, Thomas E. Campbell, Gary R. Ellis and Wayne R. Morrison, (Proceedings of the Eighth Conference on Electronic Computation,

of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p580-593. Interactive Graphics Use in Traffic Noise Modeling, Louis F. Cohn, William Bowby and Leonard W. Casson, TE March 83, p179-195. Map Content and Symbols: Chapter V of Proposed Manual on Map Uses, Scales, and Accuracies for Engineering and Associated Purposes, Robert P. Jacober, Jr., SU Nov. 80, p41-72. Micro-Graphic Computer Tilt-Up Wall Life Analysis, Elmer H. Payne, (Proceedings of the Eighth Conference on Electronic Computation. James K. Nelson, Jr., ed.,

on Electronic Computation, James K. Nelson, Jr., ed., 1983), p660-670.

Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983, 784pp. Progressive Collapse Resistant Design, John L. Gross and William McGuire, ST Jan. 83, p1-15.

Shape Modification Using Sensitivity Information, Theodore J. Weidner and Marks Shephard, (Pro-ceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p144-154.

Simulation and Analysis of Construction Operations, Boyd C. Paulson, Jr., Sarah A. Douglas, Anthony Kalk, Ali Touran and Graeme A. Victor, TC Aug. 83, p89-104.

Computer hardware Dynamic Graphic Devices and Structural Analysis, Dynamic Graphic Devices and Structural Analysis, Dan VanLuchene, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p126-129. Finite Element Analysis Computation with Parallel VLSI, J. McGregor and M. Salama, (Proceedings of vLS1, 3. McCregor and wi. Sanama, (rroceaungs of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p540-553. Introductory Manual on Computer Services (M&R No. 61), Committee on Coordination within ASCE of the

Technical Council on Computer Practices of the American Society of Civil Engineers, 1983, 78pp.

Micro-Computers in the Consulting Office, Roger F. Weiss, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p15-27.

Computer languages Introductory Manual on Computer Services (M&R No. 61), Committee on Coordination within ASCE of the Technical Council on Computer Practices of the American Society of Civil Engineers, 1983, 78pp.

Application of Cafe to the Irish Sea, Fonda L. Thompson and Yasuo Onishi, (Frontiers in Hydraulic

Inompson and Yasuo Unish, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 3569-374.

A Computer Model for the Refraction on Non-Linear Waves, J. B. Crowley, C. A. Fleming and C. K. Cooper, (Proceedings of Coastal Engineering 22, Vol. I, Billy L. Edge, ed., 1983), 3384-403.

Computer Modelling of Ice Jams. E. Allen Churchill, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p267-272.

Kinematic-Wave Furrow Irrigation Model, Wynn R. Walker and Allan S. Humphreys, IR Dec. 83,

Long-Span Bridge Computer Modeling, Thomas A. Fisher and Ramesh B. K. Rao, ST June 83, p1402-1413. Modeling Ground-Water Flow at Love Canal, New

York, James W. Mercer, Lyle R. Silka and Charles R. Faust, EE Aug. 83, p924-942.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Reservoir Operation by Linear and Dynamic Programming, Miguel A. Marino and Behzad Mohammadi, WR Oct. 83, p303-319.
Simulation of Metal Transport in Streams, B. M.

Chapman and D. R. Jones, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p635-642. Small End Restraint Effects on Strength of H-columns,

Hironori Sugimoto and Wai F. Chen, ST March 82,

p661-681.

Computer programming Artificial Intelligence in Simple Beam Design, Martin F. Rooney and Steven E. Smith, ST Oct. 82, p2344-2348.

Pile Group Analysis: A Study of Two Methods, Harry G. Poulos and Mark F. Randolph, GT March 83, p355-372.

Computer programming languages LISP-A CAD System Programming Language, Neal M. Holtz and William J. Rasdorf, TC Apr. 83, p58-72.

Computer programs
Adapting the ANSYS Program to an Attached Proccasping the ANSIS Flogram to an Attached Froc-essor, John A. Swanson, Ph.D., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p554-558.

Computer Aided Optimization of Bridge Girders, B. G. Rabbat and T. Takayanagi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p646-659.

Design Aspects of Adaptive Finite Element Codes, D. W. Wang, I. N. Katz and M. Z. Qian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p821-824.

Design, Programming and Maintenance of HSPF,

Robert C. Johanson and John L. Kittle, TC Apr. 83,

p41-57. Ditch Flow Program, Michael B. Bruce, CE June 83,

The EPA SWMM Model: Documentation and Maintenance, Wayne C. Huber, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p312-317. Finite Element Analysis of Jointed Concrete Pavements, Yang H. Huang and Xue-Jun Deng, TE Sept. 83, p689-705

 p695-703.
 p696-703.
 p636-66.
 prame Program, Milo S. Ketchum, CE Dec. 83, p61-63.
 Interactive Graphics for Design of Piping Systems, John F. Fleming, Theodore J. Batt, Thomas E. Campbell, Gary R. Ellis and Wayne R. Morrison, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr. ed. 1983), p580-933. James K. Nelson, Jr., ed., 1983), p580-593. Interactive Nonstructural Flood-Control Planning,

David T. Ford, WR Oct. 81, p351-363.

Model Documentation Designed for Users, Charles R. Bristol, Raymond L. Humphries and James L. Higgins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p306-311. New Computer Program Standardizes Feasibility Stud-

ies, CE June 83, p18.
Point Loads on Precast Concrete Floors, John F.

Stanton, ST Nov. 83, p2619-2637.
Response of Seafloor to Ocean Waves, W. D. Liam

Finn, R. Siddharthan and G. R. Martin, GT Apr. 83, p556-572

Software Documentation and Support: HEC Experience, Arlen D. Feldman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p318-323. Stiffness Matrices for Non-Prismatic Members. Noel J.

Everard, Ronald D. Matthys and James E. Leininger, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p379-389

Systematic Calibration of Multinomial Logit Models, Snehamay Khasnabis, Michael J. Cynecki and Mark

A. Flak, TE March 83, p209-231.

Wind-Induced Cladding Loads in Hurricane-Prone Regions, Emil Simiu and Martin E. Batts, ST Jan. 83, p262-266.

outer software

Adoption of a Mainframe Code to Desk-Top Computers, James R. Stafford and Farhad Tabaddor, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

Building Block Technique for Structural Design Software, Ergin Citipitioglu, (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr., ed., 1983), p572-579.
Computer Graphics Aided Instruction of Structural Engineering, Victor E. Saouma and Ronald G. Hoelzeman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p209-222.

Documentation of Hydraulic Software, A.S.C.E. Task Committee on the Documentation of Hydraulic Software, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p301-305.

Interactive Structural Software for Micros, J. M. Sims and H. R. Lundgren, (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr., ed., 1983), p242-252. Introductory Manual on Computer Services (M&R No. 61), Committee on Coordination within ASCE of the Technical Council on Computer Practices of the

American Society of Civil Engineers, 1983, 78pp.
LISP-A CAD System Programming Language, Neal M.
Holtz and William J. Rasdorf, TC Apr. 83, pp8-72.
Microcomputer Basics: A Tutorial on Microcomputer

Hardware, Software and System Selection, M. Kevin Parfitt, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p769-779.

Software Documentation and Support: HEC Experience, Arlen D. Feldman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p318-323. Vector Computing: Requirements and Constraints, Kenneth W. Neves, B. Dembart, D. S. Dodson, J. G.

Lewis and W. G., Poole, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p28-36.

Computer systems programs End-User Systems Boost MIS Productivity, W. Dennis Moran and R. Timothy Heatwole, (Improving Productivity, J. R. King Jr., ed., 1983), p67-78.

An Integrated System Approach to Structural Synthesis, B. Prasad, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p155-171.

Introductory Manual on Computer Services (M&R No. 61), Committee on Coordination within ASCE of the Technical Council on Computer Practices of the American Society of Civil Engineers, 1983, 78pp.

Computerized control systems Computer Control for Irrigation-Canal System, Darell D. Zimbelman and David D. Bedworth, IR March 83, p43-59.

Computerized design \$1 Billion Needed for Computer Education, CE Jan. 83,

p27.
Adapting the ANSYS Program to an Attached Processor, John A. Swanson, Ph.D., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p554-558. A/Es Pack Dallas Computer Show for Designers, CE

Sept. 83, p12. Automated Design of Aseismic R/C Structures, Farzad Naeim and James C. Anderson, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p608-621.

Computer Aided Optimization of Bridge Girders, B. G. Rabbat and T. Takayanagi, (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr., ed., 1983), p646-659.

Curved Girder Optimization-AASHTO Constraints, Curved Girder Optimization—AASH10 Constraints, Richard Douty, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p102-105. Evaluating CADD Systems, Gregory L. Bloom, CE Feb. 83, p30-33.

A General Purpose Interactive Design Postprocessor, Statem E Constrant Leonard M Rand (Proceedings).

Stacey E. Soper and Leonard M. Rand, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p.287-297.
Integration of Computers into Eng. Mech. Curricula, Rudolph Szilard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., 40, 1982), 2184-2

ed., 1983), p186-196.

LISP-A CAD System Programming Language, Neal M.
Holtz and William J. Rasdorf, TC Apr. 83, p58-72.

Minicomputers in Structural Optimum Design, Bogdan
O. Kuzmanovic and Nicholas Willems, CE May 82, p82-84.

Optimization Methods in Structural Design Practice, Andrew B. Templeman, ST Oct. 83, p2420-2433. Organization of a Structural Design Database, William J. Rasdorf and Steven J. Fenves, (Proceedings of the

Eighth Conference on Electronic Computation, James

Eight Conference on Determine Computations, Saints
K. Nelson, Jr., ed., 1983), p559-571.
Teaching C. E. Students to Use Computers, J. H.
Appleton and E. T. Miller, (Proceedings of the Eighth
Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p172-181.

outerized simulation

Computer-Simulated Flexural Tests of Partially Prestressed Concrete Sections, M. Z. Cohn and M. Bartlett, ST Dec. 82, p2747-2765.

A Dynamic Communication Technique for Civil Engineers, Samuel Y. Ng, CE Dec. 83, p55-56.

An Integrated System Approach to Structural Synthesis, B. Prasad, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p155-171.

A Simplified Simulation of Guyed Towers. P-Delta Analysis, Jean-Robert Murat and Louis Crepeau, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p454-466.

Simulation and Analysis of Construction Operations, Boyd C. Paulson, Jr., Sarah A. Douglas, Anthony Kalk, Ali Touran and Graeme A. Victor, TC Aug. 83,

p89-104.

Computerized test methods

Computer Based Testing of Dynamic Response, Thomas Glebas, Levon Minnetyan and Gordon B. Batson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p589-592.

A/Es Pack Dallas Computer Show for Designers, CE

Sept. 83, p12.
omputers: The Ins and Outs of the Purchasing Computers: Contract, Timothy C. O'Connor, CE Feb. 83, p37-39. Introductory Manual on Computer Services (M&R No. 61). Committee on Coordination within ASCE of the Technical Council on Computer Practices of the American Society of Civil Engineers, 1983, 78pp.

The Night the Computer Stole the Engineer's Brain,

Achintya Haldar, CE Feb. 83, p68-70. Teaching C. E. Students to Use Computers, J. H. Appleton and E. T. Miller, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p172-181.

Concentrated loads

Point Loads on Precast Concrete Floors, John F.

Foint Loads on Precast Concrete Pioors, John F. Stanton, ST Nov. 83, p2619-2637.
Wharf Decks - Design Load vs. Cost, Ralph W. Junius, (Proceedings of Ports 83, Kong Wong, ed., 1983), p570-583.

Concrete

Amtrak to Switch to Concrete Ties on Its Northeast Lines, CE Nov. 83, p16.

Analytical Studies of Expansive Solids in Concrete, R. Iding and B. Bresler, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1028-1031.

Application of a Plasticity Model to Concrete, S. M. Babcock and H. L. Schreyer, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p960-963

Application of Fracture Mechanics to Concrete, Sidney Mindess, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p794-797.

A Comparison of Finite Element J-Integral Evaluations for the Blunt Crack Model and the Sharp Crack Model, Y. C. Pan and J. M. Kennedy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p763-766.

Concrete Bearing Capacity around Large Inserts, Edwin G. Burdette, W. Dale Jones and Kenneth E.

Fricke, ST June 83, p1375-1386.

Finite Element Modeling of Concrete Failure in Shear, Kaspar William, Stein Sture and James Christensen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p770-773.
Fly Ash Sulfur Concrete, William J. Head and Min-Fu Liao, TE May 81, p345-363.

In-Place Flexural Strength Evaluation of Concrete, Muzaffer Yener, Wai F. Chen and Alvin Nishikawa, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1032-1035.

-Shaped Column Design for Biaxial Eccentricity, L. N. Ramamurthy and T. A. Hafeez Khan, ST Aug. 83,

p1903-1917.

Medium Head Hydro Power House Concrete Volumes, James L. Gordon, EY Dec. 81, p237-254.

Model for Pull-Out Strength of Anchors in Concrete,
Walter H. Peier, ST May 83, p1155-1173.

Monotonic and Cyclic Constitutive Law for Concrete, Michael N. Fardis, Bunu Alibe and John L. Tassoulas, EM Apr. 83, p516-536.

Nonlinear Fracture Process Zone in Concrete, M. Wecharatana and S. P. Shah, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p993-996.

Predictions of Nonlinear Fracture Process Zone in Concrete, Methi Wecharatana and Surendra P. Shah,

Concrete, Meteria Wechariatania and Surendra F. Shan, EM Oct. 83, p1231-1246.

Proportioning of Concrete Using Regression Analysis, Sukhvarsh Jerath, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p1055-1058. Singular History Integral for Creep Rate of Concrete,

Zdenek P. Bazant, Tatsuya Tsubaki and Zekai Celep,

EM June 83, p866-884.

A Strain-Rate Dependent Damage Model for Concrete, W. Suaris and S. P. Shah, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p977-980.

Stress Distributions in Higher Strength Concrete Beams, A. Nikaeen and S. E. Swartz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p549-552.

Superplasticized Concrete Takes Off in Dallas, Eugene E. Dallaire, CE Apr. 83, p39-42.

Tension Stiffening and Compression Softening in Concrete, Linda Leibengood, David Darwin and Robert H. Dodds, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1043-1046.

Concrete additives

Superplasticized Concrete Takes Off in Dallas, Eugene E. Dallaire, CE Apr. 83, p39-42.

Aggregate Gradings for Nuclear Concrete, Kurtz L. Paulson and R. Harlan Wright, CO March 82,

Concrete construction

Innovations in Nuclear Concrete Construction, Clyde B. Tatum, CO June 83, p131-145.

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Delaminated Prestressed Concrete Dome: Investigation and Repair, Frederick L. Moreadith and Richard E. Pages, ST May 83, p1235-1249. Throgs Neck Bridge: Why Did Its Deck Deteriorate? Benjamin Forsyth and Frank L. Stahl, CE July 83,

p50-52.

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Concrete masonry
Finite Element Method for Interface Problems, Santosh K. Arya and Gilbert A. Hegemier, ST Feb. 82, p327-342

Strength of Anchor Bolts in Grouted Concrete Masonry, Russell H. Brown and A. Rhett Whitlock, ST June 83, p1362-1374.

Concrete pavements
Analysis of Concrete Pavement Blowups, Arnold D. Kerr and Patrick J. Shade, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p730-733.

Comparative Analyses of Rigid Pavements, Yu T.

Comparative Analyses of Rigid Pavements, Yu T. Chou, TE Sept. 83, p669-688. Effect of PCC Shoulders on Adjacent Concrete Lanes, Jihad S. Sawan, TE March 83, p312-324. Georgia's Low-Cost Approach to Rehabilitating Concrete Pavements, CE Aug. 83, p50-54.

Pavement and Bridge Rehab Covered at Fort Worth Conference, Daniel Dake, CE Aug. 83, p60. Precast Repair of CRC Pavements, Alvin H. Meyer and B. F. McCullough, TE Sept. 83, p615-630. Subgrade Contact Pressures under Rigid Pavements, Yu

T. Chou, TE May 83, p363-379.

Throgs Neck Bridge: Why Did Its Deck Deteriorate?

Benjamin Forsyth and Frank L. Stahl, CE July 83,

Concrete piles Structural Evaluation of Marine Structures, Jerry J. Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677.

Concrete pipes First Concrete Pipe Sewer Uncovered, CE Feb. 83, p12. Metropolitan Water District San Diego Pipeline 5, Gary M. Snyder and William P. Lundy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Pipe-Jacking: State-of-the-Art in UK and Europe, T. E. Clarkson and J. C. Thomson, TE Jan. 83, p57-72.

Concrete placing

Cold Regions Concreting, J. Derle Thorpe, Jules Houde, Bruce A. Suprenant, Valery Tokar and Harold B. Wenzel, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p59-71.

Fabric Forming for Underwater Concrete, Bruce A. Lamberton, (Coasial Structures '83, J. R. Weggel, ed., 1983), p619-631.

Concrete, post-tensioned Bridge, CE June 83, p58-59.

Delaminated Prestressed Concrete Dome: Investigation and Repair, Frederick L. Moreadith and Richard E. Pages, ST May 83, p1235-1249. Record Concrete Box Girder Spans Houston Ship Channel, Stephen B. Quinn, CE Nov. 83, p46-50.

Concrete, precast Bridge, CE June 83, p58-59.

Concrete and Soil-Cement for Shore Protection in the Province of Quebec, Wayne S. Asaska and George H. Cameron, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p356-369.

Dynamic Response of Rigid Prism Assemblies, Robert H. Allen, Jacobo Bielak and Irving J. Oppenheim, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p142-145.
Micro-Graphic Computer Tilt-Up Wall Life Analysis,
Elmer H. Payne, (Proceedings of the Eighth Conference
on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p660-670.

Point Loads on Precast Concrete Floors, John F.

Stanton, ST Nov. 83, p2619-2637.

Precast Repair of CRC Pavements, Alvin H. Meyer and B. F. McCullough, TE Sept. 83, p615-630.

Seven Mile Bridge and Other Structures Praised for Concrete Use, CE Jan. 83, p13.

Wave Attenuation Due to a Modular Porous Breakwater, E. Benassai, A. Ragone and J. A. Sciortino, (Coastal Structures '83, J. R. Weggel, ed., 1983), p222-234.

Concrete, prestressed Complete Triaxial Stress-Strain Curves for Concrete, Shuaib H. Ahmad and Surendra P. Shah, ST April

Computer-Simulated Flexural Tests of Partially Pre-stressed Concrete Sections, M. Z. Cohn and M. Bartlett, ST Dec. 82, p2747-2765. Cracking at Openings in Prestressed Beams at Transfer, John B. Kennedy and A. M. El-Laithy, ST June 82, p1250-1265.

Creep of Concrete in Variable Environments, William L. Gamble, ST Oct. 82, p2211-2222.

Inelastic Behavior of Continuous Prestressed Concrete Beams, M. Z. Cohn and Y. Frostig, ST Oct. 83, p2292-2309.

Magnel Diagrams for Prestressed Concrete Beams, Natarajan Krishnamurthy, ST Dec. 83, p2761-2769. Nonlinear Analysis of Prestressed Concrete Slabs,

Johannes Van Greunen and Alexander C. Scordelis, ST July 83, p1742-1760.

Optimum Design of Prestressed Concrete Tension

Members, Antoine E. Naaman, ST Aug. 82, p1722-1738.

1738.
Protecting Post-Tensioning Tendons in Concrete Structures, Morris Schupack, CE Dec. 82, p43-45.
Segmental Post-Tensioned Dolphin at Tagrin Point, Samir G. Mattar, CO Sept. 83, p276-285.
Seven Mile Bridge and Other Structures Praised for Concrete Use, CE Jan. 83, p13.
Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83, p1364-6185. p1836-1853.

me-Dependent Analysis of PC Cable-Stayed Bridges, M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83. p1980-1996.

Concrete properties
On the Loading Functions in Concrete Plasticity, Y.
Takahashi, E. C. Ting and A. H. Marchertas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p751-754.

Concrete, reinforced

Analytical Model for Concrete Confinement in Tied Columns, Shamim A. Sheikh and S. M. Uzumeri, ST Dec. 82, p2703-2722.

Application of Fracture Mechanics to Reinforced Concrete, Zdenek P. Bazant and J. K. Kim, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p798-800.

Nacim and James C. Anderson, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p608-621.

Behavior and Design of Reinforced and Composite Concrete Structures, Soliman I. Al-Noury and Wai F. Chen, ST June 82, p1266-1284.

Bridge Deck Overlay Combines Steel Fiber and Latex, CE Apr. 83, p12.

Collapse Loads of Nonprestressed R/C Curved Beams, M. A. Mansur and B. V. Rangan, ST Apr. 83, p993-1009.

Comparative Analyses of Rigid Pavements, Yu T. Chou, TE Sept. 83, p669-688.
Complete Triaxial Stress-Strain Curves for Concrete,

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Concrete Structures: Penetration Depth Estimation, Achintya Haldar, Mehdi Hatami and Frank J. Miller, ST Jan. 83, p245-250.

Crack Spacing in Reinforced Concrete: Approximate Solution, Zdenek P. Bazant and Byung H. Oh, ST Sept. 83, p2207-2212.

Cracking and Shear Effects on Structural Walls, Dario Aristizabal-Ochoa, ST May 83, p1267-1277.
Cyclic Shear and Dowel Action Models in R/C, Rafael
Jimenez, Richard N. White and Peter Gergely, ST

May 82, p1106-1123.
Cylic Loading of Spirally Reinforced Concrete,
Surendra P. Shah, Apostolos Fafitis and Richard
Arnold, ST July 83, p1695-1710.

Damage Analyses of Imperial County Services Building, R. Shepherd and A. W. Plunkett, ST July 83, p1711-1726.

Deformation of Cracked Net-Reinforced Concrete Walls, Zdenek P. Bazant and Byung H. Oh, ST Jan.

Discrete Crack Modelling in Reinforced Concrete, Victor E. Saouma and Anthony R. Ingraffea, (Recent Victor E. Saouma and Anthony R. Ingrattea, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1005-1008. Dynamic Response of Buried Concrete Arch to Blast Loading, Ivan Nelson and Chung Gong, (Recent in Exprisering Mechanics and Their Impact

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p989-992.

Dynamic Response of Coupled Wall Systems, J. D.

Aristizabal-Ochoa, ST Aug. 82, p1846-1857. Experimental and Analytical Prediction of the Mechanical Characteristics for 7-Story R/C Frame-Wall Structure, A. E. Aktan and V. V. Bertero, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p363-367.

A Failure Methodology Based on Shear Deformation, John E. Crawford, T. J. Holland, P. J. Mendoza and R. N. Murtha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p985-988.
Failure Surface of Structural Concrete Members,

Cheng-Tzu Thomas Hsu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p671-682.

Fiber Reinforced Concrete, Kneeland A. Godfrey, Jr., CE Nov. 82, p44-50. Finite Element Modeling of Crack Band Propagation,

Zdenek P. Bazant and Luigi Cedolin, ST Jan. 83, p69-92.

Finite Segment Method for Biaxially Loaded RC Columns, Soliman I. Al-Noury and Wai F. Chen, ST

April 82, p780-799.

Flanged Reinforced Concrete Flexural Members, S. Somayaji and R. B. Patel, CE Dec. 83, p50-53. Flexural Strength of Square Spread Footing, Da Hua Jiang, ST Aug. 83, p1812-1819. Force-Displacement Behavior of Concrete Bridge,

George E. Ramey, ST Nov. 83, p2600-2618.

George E. Ramey, S1 Nov. 83, p.2000-2618. Geometric Nonlinearities in Nonsway Frames, Shu-Ming A. Lai, James G. MacGregor and Jostein Hellesland, ST Dec. 83, p.2770-2785. Hysteresis Identification of Existing Structures, Sassan Toussi and James T. P. Yao, EM Oct. 83, pl.189-1202. Impact Damage in Reinforced Concrete Shell Structures, Yves Crutzen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al., eds., 1983), 981-984.
Infills in Seismic Resistant Building, Vitelmo Bertero
and Steven Brokken, ST June 83, p1337-1361.
Lateral-Load Tests of R/C Slab-Column Connections, Denby G. Morrison, Ikuo Hirasawa and Mete A. Sozen, ST Nov. 83, p2698-2714.

Load Capacity of Concrete Bridge Decks, David B.

Beal, ST April 82, p814-832. L-Shaped Reinforced Concrete Column Section, C. T. Thomas Hsu, (Recent Advances in Engineering Me-Computation, (Recent Avances in Engineering Practice, W. F. Chen, et al, eds., 1983), p557-560.

Micro-Graphic Computer Tilt-Up Wall Life Analysis, Elmer H. Payne, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p660-670.

Modeling Fractures in Fiber Reinforced Concrete, Antoine E. Naaman and Kitisak Visalvanich, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1307-1310.

Modeling of R/C Joints under Cyclic Excitations, Filip Filippou, Egor P. Popov and Vitelmo V. Bertero,

ST Nov. 83, p2666-2684

Moments in Edge Panels of Flat Plate Floors, A. S. Hall and B. V. Rangan, ST Nov. 83, p2638-2650. Orientation of Ribs in Waffle-Slab Skew Bridges, John B. Kennedy, ST March 83, p811-816.

Plastic Analysis of Reinforced Concrete Rectangular Thick Plate under Impulsive Loading, Cao Zhiyuan and Yang Shengtian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1036-1039. Precast Repair of CRC Pavements, Alvin H. Meyer and

B. F. McCullough, TE Sept. 83, p615-630.

Properties of Concrete Subjected to Impact, Wimal Suaris and Surendra P. Shah, ST July 83, p1727-1741.

R/C Containment Safety under Hydrogen Detonation,

Michael N. Fardis, Alex Nacar and Michael A. Delichatsios, ST Nov. 83, p25:1-2:27.

Reinforced Concrete Beams under Bending, Torsion and Shear-A Finite Element Approach, Gerhard Mehlhorn and Gunter Schmidt Gonner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983), p706-709.

Reinforced Concrete Shells-Analysis vs. Design, Ajaya K. Gupta and Habibollah Akbar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p702-705.

Reliability Analysis of Reinforced Concrete Columns Based on ACI 318-77, Chandrasekhar Putcha and Faramarz Mokri-Argane, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engi-neering Practice, W. F. Chen, et al, eds., 1983), p932-935

Reliability Based Optimum Design of Concrete Frames, Adang Surahman and Kamal B. Rojiani, ST March 83, p741-757.

Seismic Analysis of Slender Coupled Walls, Aristizabal-Ochoa, ST July 83, p1538-1552. Seismic Damage in Reinforced Concrete Frames,

Hooshang Banon, John M. Biggs and H. Max Irvine, ST Sept. 81, p1713-1729.

Seismic Reliability of Damaged Concrete Bean Shinozuka and R. Y. Tan, ST July 83, p1617-1634.

Shear Deformation in Seismic Frame Structures, Richard C. Fenwick, ST Apr. 83, p965-976. Shear Lag in Box Girders, Bogdan O. Kuzmanovic and H. James Graham, ST Sept. 81, p1701-1712. Shear Strength of R/C Beam-Column Connections,

Donald F. Meinheit and James O. Jirsa, ST Nov. 81. p2227-2244

Spacing of Cracks in Reinforced Concrete, Zdenek P. Bazant and Byung H. Oh, ST Sept. 83, p2066-2085. Staggered Shear Panels in Tall Buildings, K. N. V. Prasada Rao and K. Seetharamulu, ST May 83,

p1174-1193.

The Strength and Behavior of Steel-Fiber Reinforced Concrete under Combined Tension-Compression Loading, Roger W. Meier, Hon-Yim Ko and Stein Sture, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p952-955. Strength Criteria for Concrete Inverted T-Girders, Sher

Ali Mirza and Richard W. Furlong, ST Aug. 83,

p1836-1853.

Strength Design of Shell Membrane Reinforcement, Morris N. Fialkow, ST Apr. 83, p891-908. Study of Reinforced Concrete Bond Specimens by

FEM, Song Qi-gen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p710-713. Tests of R/C Folded Plates Shell with Edge Beams,

Musa R. Resheidat, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p553-556. Torsion Tests of R/C Beams with Large Openings,

Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1780-1791.

Transient Thermal Behavior of Composite Bridges, Carl

Transient Thermal Behavior of Composite Bridges, Carl Berwanger, ST Oct. 33, p2325-2339.

Ultimate Torque of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.

Wind-Buckling Approach for R/C Cooling Towers, Wolfsong Terrer bean Museus and Wolfer Straffon.

Wolfgang Zerna, Ihsan Mungan and Walter Steffen, EM June 83, p836-848.

Yield-Line Analysis of Slabs-on-Grade, Robert A Baumann and Frank E. Weisgerber, ST July 83, p1553-1568.

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Circular Voided Concrete Slab Stiffnesses, G. Elliott

and L. A. Clark, ST Nov. 82, p2379-2393.
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Finite Element Analysis of Jointed Concrete Pavements, Yang H. Huang and Xue-Jun Deng, TE Sept. 83, p689-705. Load Capacity of Concrete Bridge Decks, David B.

Beal, ST April 82, p814-832.

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Concrete, steam cured Creep of Concrete in Variable Environments, William L. Gamble, ST Oct. 82, p2211-2222.

2-D Finite Element Analysis of Massive RC Structures. Niels Saabye Ottosen, ST Aug. 82, p1874-1893.

Analysis of Complex Shear Wall Structures, B. S.

Taranath, M. B. Kanchi, B. Kadaikal and M.

Vasseghi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p622-632. Analytical Studies of Expansive Solids in Concrete, R. Iding and B. Bresler, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p1028-1031. Application of Fracture Mechanics to Reinforced Concrete, Zdenek P. Bazant and J. K. Kim, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p798-800.

Cavitation Resistance of Concrete Structures, Ernest K. Schrader, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p419-424.

Comment on Orthotropic Models for Concrete and Geomaterials, Zdenek P. Bazant, EM June 83,

Concrete Plate Reinforcement: Frictional Limit Design, Zdenek P. Bazant and Chuan Lin, ST Nov. 82. p2443-2459.

Concrete Structures: Penetration Depth Estimation, Achintya Haldar, Mehdi Hatami and Frank J. Miller,

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Fiber Reinforced Concrete, Kneeland A. Godfrey, Jr.,

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Finite Element Modeling of Crack Band Propagation,
Zdenek P. Bazant and Luigi Cedolin, ST Jan. 83,

On the Loading Functions in Concrete Plasticity, Y. Takahashi, E. C. Ting and A. H. Marchertas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p751-754.

On Wave Propagation and Fracture in Concrete Structures, Larsgunnar Nilsson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p972-976.

Properties of Concrete Subjected to Impact, Wimal Suaris and Surendra P. Shah, ST July 83, p1727-1741. Reliability of Concrete Chimneys under Wind Loading,

A. Kareem and J. Hseih, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p928-931.

Seismic Analysis of Slender Coupled Walls, J. Dario Aristizabal-Ochoa, ST July 83, p1538-1552.

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Spacing of Cracks in Reinforced Concrete, Zdenek P.
Bazant and Byung H. Oh, ST Sept. 83, p2066-2085.
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E. Dallaire, CE Jan. 83, p30-37.

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West Coast High-Rise Condo Opts for Ductile Concrete Frame, Craig G. Huntington and Y. C. Yang, CE July 83, p39-41.

Concrete technology Cold Regions Concreting, J. Derle Thorpe, Jules Houde, Bruce A. Suprenant, Valery Tokar and Harold B. Wenzel, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p59-71.
Microsilica Shotcrete: New in Concrete Technology,

CE Oct. 83, p14.

Concrete tests

Concrete less Acceptance Testing of Concrete: Various Plans, Robert B. Rutledge and Luke M. Snell, ST Jan. 83, p143-153. Aggregate Gradings for Nuclear Concrete, Kurtz L. Paulson and R. Harlan Wright, CO March 82,

p105-120.

The "Break-Off Method" for Testing Concrete in Place, Einar Dahl-Jorgensen, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

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Determination of Concrete Strengths Using Ultrasonic Waves, Leonid Millstein and Gaianan M. Sabnis. (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p561-564.

Concretes

Creep of Concrete in Variable Environments, William L. Gamble, ST Oct. 82, p2211-2222.

Cone penetration tests
Cone Penetration Testing in the Beaufort Sea, Michael
G. Jefferies and Erik Funegard, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New
York: ASCE, 1983), p220-243.
Liquefaction Sites, Imperial Valley, California, T. Leslie
Youd and Michael J. Bennett, GT March 83,

p440-457. SPT - CPT Correlations, P. K. Robertson, R. G. Campanella and A. Wightman, GT Nov. 83, p1449-

Conferences

A/Es Pack Dallas Computer Show for Designers, CE

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COFPAES Meeting This Month, CE Apr. 83, p8.
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Highligts of US-China Energy Conference, S. W. Yuan, CE June 83, p70.

Optimism Prevails at 1983 OTC, CE July 83, p63 Pittsburgh Hosts National Bridge Conference, CE April 83, pl4.

Rehab Assembly to Convene, CE Oct. 83, p95. Third National Water Symposium: Groundwater Contamination is a Major Issue, Carl Nuzman, CE Dec.

83, p12 Urban Traffic Problems Covered at California Conference, Laura Steinman and Barbara Tritel, CE April 83, p14-16.

Confidence intervals

Confidence Intervals for Design Events, Jery R. Stedinger, HY Jan. 83, p13-27.

Confined flow

Recovery in Large Diameter Wells, P. Basak, HY Oct. 82, pl 194-1207.

Analytical Model for Concrete Confinement in Tied Columns, Shamim A. Sheikh and S. M. Uzumeri, ST Dec. 82, p2703-2722.

Conflict

Managing Coastal Conflict: A Federal Permit Role? Radford S. Hall, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1136-1141.

Managing Conflict in the Coastal Zone, Geoffrey H. Ball and Charlotte Symons, (Coastal Zone '83, Orville

T. Magoon, et al, eds., 1983), p1330-1339.
Oil Versus Navigation—Resolving the Conflict, Jan E. Terveen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p799-816.

Conflict of interest

Association between Personal and Professional Values Richard H. McCuen and Michael S. Pritchard, El Jan. 83, p1-9.

Conflicts

Conflict Resolution: Use of the Government-Industry Task Force, Mari Gottdiener, (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983), p2092-2095.

Conformal mapping
Conformal Mapping for Channel Junction Flow,
Pashupati N. Modi, Pitamber D. Ariel and Mohan
M. Dandekar, HY Dec. 81, p1713-1733.
Schwarz-Christoffel Theory of Flow Past an Opening,
Change Mine, Vang Su. EM April 82,

Cheng-lung Chen and Ming-Yang Su, EM April 82, p399-418.

Seepage into Collection Galleries, Bruce Hunt, HY June 83, p852-864.

Connections

Connection Spacing Criteria in Cold-Formed Steel, Muzaffer Vener, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p1105-1108.

Hyatt-Regency Walkway Collapse: Design Alterna-tives, George F. W. Hauck, ST May 83, p1226-1234. Small End Restraint Effects on Strength of H-columns, Hironori Sugimoto and Wai F. Chen, ST March 82,

Structural Steel Details: Is Responsibility a Problem? Gene Dallaire and Rita Robison, CE Oct. 83, p51-55.

Connections, Models for Steel Connections, R. M. Richard, D. A. Rabern, D. E. Hormby and G. C. Williams, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p128-155.

Coupled Moment-Axial Force Behavior in Bolted Joints, M. W. Wales and E. C. Rossow, ST May 83,

p1250-1266.

FEABOC: Finite Element Analysis of Bolt Connection, Natarajan Krishnamurthy, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p312-325.

High-Strength Bolting: Recent Research and Design Practice, Peter C. Birkemoe, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J.

Hall, et al, eds., 1983), p103-127.

Strength of Double-Row Bolted Web Connections, James M. Ricles and Joseph A. Yura, ST Jan. 83, p126-142.

Shear Strength of R/C Beam-Column Connections, Donald F. Meinheit and James O. Jirsa, ST Nov. 81, p2227-2244.

Conservation

California's Coastal Protection Constituency: Conserving a Critically Valuable Resource, Ruth Galanter, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p548-558.

Developing a Coastal Management Constituency, Sandra Barrett, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2163-2172.

An Eighth Canon for the Practitioner, Roger E. Nelson, El Jan. 83, p53-57.

Consolidation

Design Capacity of Slurried Mineral Waste Ponds, W. David Carrier, III., Leslie G. Bromwell and Frank Somogyi, GT May 83, p699-716.

Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82,

Universal Compression Index Equation, Oswald Rendon-Herrero, GT Nov. 80, p1178-1200.

Consolidation, soils

1-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-1333.

Consolidation Curves for Clays, Eulalio Juarez-Badillo and Benito Chen, GT Oct. 83, p1303-1312.

An Improved Consolidation Law of Highly Compressive Clays, Ricardo Salazar, Tsu T. Soong and Francis A. Cozzarelli, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Numerical Solutions for Biot's Consolidation of Lay-ered Soil, Y. K. Cheung and L. G. Tham, EM June

83, p669-679.

Permeability and Consolidation of Normally Consolidated Soils, A. Mahinda Samarasinghe, Yang H. Huang and Vincent P. Drnevich, GT June 82, p835-850.

Pore Pressure Development during Cyclic Loading, Ching S. Chang, Ching L. Kuo and Ernest T. Selig, GT Jan. 83, p103-107.

Original of the process of the proce

83, p807-820. Simple Question about Consolidation, John H. Schmertmann, GT Jan. 83, p119-122.

Optimal Strength and Stiffness Design of Beams, S. Kanagasundaram and Bhushan L. Karihaloo, ST Jan. 83, p221-237.

Constitutive equations

Comment on Orthotropic Models for Concrete and Geomaterials, Zdenek P. Bazant, EM June 83.

Endochronic Description of Sand Response to Static Loading, Han C. Wu and T. P. Wang, EM Aug. 83, p970-989

Endochronic Modeling for Shear Hysteresis of Sand, Han-Chin Wu and Jiun-Chyuan Sheu, GT Dec. 83, p1539-1550.

Modified Duncan Model and Its Implementation,

Zhang Ke-jian and Zhang Xiang-lin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1020-1023.

Monotonic and Cyclic Constitutive Law for Concrete, Michael N. Fardis, Bunu Alibe and John L. Tassoulas, EM Apr. 83, p516-536.
Plane Strain Constitutive Equations for Soils, Bobby O. Hardin, GT March 83, p388-407.

Singular History Integral for Creep Rate of Concrete, Zdenek P. Bazant, Tatsuya Tsubaki and Zekai Celep, EM June 83, p866-884.

Constitutive models

Application of a Plasticity Model to Concrete, S. M. Babcock and H. L. Schreyer, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p960-963.

The Development of Nonlinear Constitutive Models for Structural Analysis of Turbine Engine Components, R. L. Thompson and T. Y. Chang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p539-544.

Elasto-Plastic Material Models, R. Janardhanam and C. S. Desai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p746-750.
An Inelastic Constitutive Model for Fabrics, Norris Stubbs and Segun O. Thomas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p389-392

Three-Dimensional Testing and Modeling of Ballast, R. Janardhanam and C. S. Desai, GG June 83, p783-

Constitutive relations

Distortional Hardening Rules for Metal Plasticity, Miguel Ortiz and Egor P. Popov, EM Aug. 83, p1042-1057.

Elasto-Plastic Material Models, R. Janardhanam and C. S. Desai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p746-750. Hysteretic Endochronic Theory for Sand, Zdenek P. Bazant, Raymond J. Krizek and Chin-Long Shieh,

EM Aug. 83, p1073-1095.

On a Curve Description Model for Soils, J. U. Khandoker and R. C. Batra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1016-1019.

Constraints

Minimax in Structural Design, Moshe B. Fuchs, ST May 83, p1107-1117.

Construction

Are "No Damages for Delay" Clauses Really Effective, Michael C. Loulakis, CE July 83, p31.

Construction Risk: Multivariate Approach, C. William Ibbs, Jr. and Keith C. Crandall, CO June 82, p187-200.

Construction Safety Yields Cost Avoidance for DC Metro, CE June 83, p68.

Design and Construction of Hadera Offshore Coal Unloading Terminal, S. L. Yaron, J. Shimoni, C. Tzachar and D. Zwemmer, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1786-1799.

Government Immunity, Negligent Construction, CE

July 83, p26. Minority Firm Gains Major Design Work on LA

Subway, CE Sept. 83, p20.

Parking Garage Supported on Structural Fill, James J. Schnabel and Ray E. Martin, CO Sept. 83, p286-296.

Schnabel and Ray E. Martin, CO Sept. 83, p280-290.
Planning and Organization of Research in Building, A. Warszawski, CO Sept. 83, p261-275.
Productivity Improvement: The Influence of Labor, William F. Maloney, CO Sept. 83, p321-334.
Segmental Post-Tensioned Dolphin at Tagrin Point, Samir G. Mattar, CO Sept. 83, p276-285.

Specifying against Construction Noise: Westway, NYC, Specifying against Construction Noise: Westway, NYL, Grant S. Anderson and Van M. Lee, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p736-743. Stochastic Network Model for Planning Scheduling, John C. Woolery and Keith C. Crandall, CO Sept. 83,

p342-354.

Construction costs

Application of Cost-Flow Forecasting Models, Shlomo Peer, CO June 82, p226-232.

Case Histories: Construction on Canyon Wall Terrain, Frank W. Pita and B. Louise Woodward, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p1-15. Construction Cartels, A. I. B. Pengiran Damit, El Jan.

83, p45-49.

Cost and Schedule Integration in Construction, Chandra S. Murthy, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p119-129

Costs Rise Steadily for Building Construction, CE Dec. 83, p10.

Critique - Cost Estimating and Project Management, Robert I. Carr, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983),

Downgrading Construction Incidents, V. K. Handa and Doug Rivers, CO June 83, p190-205.

Estimating Construction Costs in Developing Countries, Craig L. Fries, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p95-104. Integration of Client/Contractor Project Control, James

F. Warren and Richard A. Mazzini, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill,

ct al, eds., 1983), p224-235.

OSHA Regulations Effect on Construction, Enno Koehn and Kurt Musser, CO June 83, p233-244.

Owner Control Obligations on Mega-Projects, Keith C. Crandall, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p216-223.

Owner Management of Risk in Construction Contracts, Palmer H. Graham, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds.,

1983), p207-215.
Owner's Guidelines for Selecting Safe Contractors Nancy M. Samelson and Raymond E. Levitt, CO Dec. 82, p617-623. Payment Timing as a Factor in Bid Evaluation, Shlomo

Selinger, CO Sept. 83, p335-341.

Pipeline Construction in Arctic & Sub Arctic Regions, Michael J. Wagner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p500-524.

Proving Claim Damages by Employing Forensic Estimating Techniques, Robert H. Pratt, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p105-118.

Spruill, et al, eds., 1983), p103-118.
 Temporary Heating in Construction Contracts, Haim Schlick, CO Dec. 83, p447-459.
 Use of Cost Engineering Tools to Establish Damages, James J. O'Brien, (Liability in Construction Management, David M. Lee, ed., 1983), p56-67.

Construction equipment

Construction Techniques, Integration of Practical Construction Techniques, Jan H. van Oorschot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p108-121

Dirt and Steam, W. R. Carter, CE Nov. 83, p51-54. Economic Service Life of Building Construction Equipment, Shlomo Selinger, CO Dec. 83, p398-405.

Heavy Rigging for Nuclear Projects, Clyde B. Tatum, CO March 83, p48-60. Innovations Cut Costs of a Power Plant's Water System, R. Paul Narong and Joseph Funston, CE July 83, p46-49.

Preparation of Equipment for Cold Regions, George B. Jenks, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p11-23.
 Resource Sharing in Linear Construction, Srilal Perera,

CO March 83, p102-111.

Single Crane Location Optimization, Walter E. Rodriguez-Ramos and Richard L. Francis, CO Dec. 83,

p387-397. US Export of Construction Machinery Declines 37%, CE June 83, p8.

Construction industry

Attitudes toward Productivity Pay Programs, Alexander Laufer and Brian E. Moore, CO March 83, p89-101. Basic Research Needs in Construction Engineering, Robert I. Carr and William F. Maloney, CO June 83, p181-189.

Benefits and Costs of EEO Rules in Construction, Enno Koehn and Michael W. Jones, CO Dec. 83, p435-446. Construction Education: Past, Present, and Future,

Construction Education: Past, Present, and Future, Clarkson H. Oglesby, CO Dec. 82, p605-616. Construction Gains Forecast for 1983, CE Sept. 83, p10. Construction Industry in Saudi Arabia, Mohammed Al-Jarallah, CO Dec. 83, p355-368. Craft Jurisdiction Impact on Construction, Boyd C. Paulson, Jr. and John W. Fondahl, CO Dec. 83, p365-368.

p369-386.

Diffusion of Network Planning in Construction, David Arditi, CO March 83, p1-12.

Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, ed. and Richard W. Goodwin, ed., 1983, 35pp.
Engineers and Attorneys Explore Structural Failures,

CE Dec. 83, p64.

Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, Barney P. Popkin and Carl L. Brassow, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p32-35.
Impact of Number of Bidders on Competition, Robert
I. Carr, CO March 83, p61-73.

Issues in Professional Construction Management, Clyde B. Tatum, CO March 83, p112-119.
The Legal Profile of the Construction Manager,

Jeremiah D. Lambert, (Liability in Construction Management, David M. Lee, ed., 1983), p1-21.

Macrofirms: Construction Firms for the Computer Age, Gianfranco Dioguardi, CO March 83, p13-24. Management Compensation in the Construction In-dustry, Ralph Beck, (Personnel: Recruiting, Motiwating, Rewarding, J. R. King, Jr., ed., 1983), p23-27. Microcomputer Spreadsheet Applications, Lansford C. Bell and Bob G. McCullouch, CO June 83, p214-223.

OSHA Regulations Effect on Construction, Enno Koehn and Kurt Musser, CO June 83, p233-244. Professional Liability Coverage for the CM, Homer M. Sandridge, (Liability in Construction Management, David M. Lee, ed., 1983), p38-42.

Quality Assurance in Construction: How to Improve It,

CE Oct. 83, p12.

Construction management
Application of Cost-Flow Forecasting Models, Shlomo Peer, CO June 82, p226-232.

Authority Structures for Construction Project Man-

Authority Structures for Construction Project Management, Randolph Thomas, John M. Keating and Allen C. Bluedom, CO Dec. 83, p406-422.

Better Trained Construction Supers Would Boost Productivity, CE Apr. 83, p60-62.

The CM's Liability to Other Parties—Negligence, Robert J. Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p30-37.

The CM's Liability to the Client—Malpractice, Charles R. Holton, (Liability in Construction Management, David M. Lee, ed., 1983), p22-29.

Construction Education: Past, Present, and Future, Clarkson H. Oglesby, CO Dec. 82, p605-616.

Clarkson H. Oglesby, CO Dec. 82, p605-616 Construction Evaluation and Management Using DBMS, Alan Stewart Nanco, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p337-350.
Construction of Mound Breakwaters, Sverre Kjelstrup and Per Bruun, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p140-156.

Contract Arrangements in the Third World, Peter R. Morgan and M. H. Kamil, El Oct. 82, p243-250. Cost Control at the Project Level: Construction Management, Dewayne E. Hahn, (Improving Productivity, J. R. King Jr., ed., 1983), p1-3.

Crew Performance Measurement via Activity Sampling H. Randolph Thomas and Jeffrey Daily, CO Sept. 83,

p309-320.

Critical Decision Making During Construction, David B. Ashley, Kazuyoshi Uehara and Burke E. Robin-son, CO June 83, p146-162.

Downgrading Construction Incidents, V. K. Handa and

Downgrading Construction Incidents, V. R. Handa and Doug Rivers, CO June 83, p190-205. Economic Service Life of Building Construction Equipment, Shlomo Selinger, CO Dec. 83, p398-405. Evaluating Construction Failures, Harvey A. Kagan, CO Dec. 83, p460-472. Fencing a Bar Chart, John W. Melin and Barry Whiteaker, CO Sept. 81, p497-507.

Financial Incentives to Raise Productivity, Alexander

Laufer and John D. Borcherding, CO Dec. 81, p745-756. Issues in Professional Construction Management, Clyde

B. Tatum, CO March 83, p112-119.
The Legal Profile of the Construction Manager, Jeremiah D. Lambert, (Liability in Construction Management, David M. Lee, ed., 1983), p1-21. Liability in Construction Management, David M. Lee,

ed., 1983, 33pp.

Motivated Personnel Produce Winning Constructors,
John W. Fowler, (Personnel: Recruiting, Motivating,
Rewarding, J. R. King, Jr., ed., 1983), p49-54.

Negligent Supervision: How the Engineer is Liable, CE

Nov. 82, p20. Owner's Guidelines for Selecting Safe Contractors Nancy M. Samelson and Raymond E. Levitt, CO Dec. 82, p617-623.

Productivity Improvement: The Influence of Labor, William F. Maloney, CO Sept. 83, p321-334. Productivity in Civil Engineering and Construction, CE

Feb. 83, p60-63.

Professional Liability Coverage for the CM, Homer M. Sandridge, (Liability in Construction Management, David M. Lee, ed., 1983), p38-42

Research Needs in Construction Worker Performance, William F. Maloney and James M. McFillen, CO June 83, p245-254.

Resident Engineering in Power Plant Construction,

Clyde B. Tatum and Thomas E. Cottrell, CO June 83, p224-232

Rock Engineering: La Grande Complex, Quebec, D. Kent Murphy and Jerry Levay, GT Aug. 82, p1040-1055

Scheduling: Effective Methods and Techniques, Elise Hosten McGough, CO March 82, p75-84

Stochastic Network Model for Planning Scheduling, John C. Woolery and Keith C. Crandall, CO Sept. 83, p342-354.

Union Construction is Fighting Back, Allen Morrison, CE Sept. 83, p69-72.

Construction materials

Bolted Wood-Joint Yield Model, Thomas E. McLain and Surot Thangitham, ST Aug. 83, p1820-1835. Building Trends: The View from Houston, Gene

Dallaire, CE July 83, p33-38.

Ensuring Water Quality in a Distribution System, Karl B. Stinson and Keith E. Carns, EE Apr. 83, p289-304. Fly Ash Sulfur Concrete, William J. Head and Min-Fu TE May 81, p345-363.

Ice and Snow Utilization in Cold Regions Construction, Kelly Crick and John D. McClellan, (Cold Regions Construction, Darryl F. Jordan, et al. eds., 1983),

p24-31.

Innovations Cut Costs of a Power Plant's Water System, R. Paul Narong and Joseph Funston, CE July 83, p46-49. Safety Checking Formats for Limit States Design,

Bruce Ellingwood, ST July 82, p1481-1493.

Single Crane Location Optimization, Walter E. Rodriguez-Ramos and Richard L. Francis, CO Dec. 83, p387-397.

Timber Bridges: State-of-the-Art, Richard M. Gutkowski and Thomas G. Williamson, ST Sept. 83, p2175-2191.

Construction method

Habiganj-Ashuganj Pipeline Project-An Insignia of Appropriate Pipeline Technology for Bangladesh and the Near East, Delawar Bakht, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p16-24.

Construction methods

Applications of In-Situ Filled Containers for Arctic Structures, J. L. Ing. Mauricio Porraz and Martin T. Czerniak, (Coastal Structures '83, J. R. Weggel, ed., 1983), p601-609.

Building Trends: The View from Houston, Gene

Dallaire, CE July 83, p33-38.

Construction Sequence Modelling for Harbour Breakwater, Roger W. Hendry, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1765-1785.

Design Features and Construction Techniques for Ocean Outfall Scarborough, Maine, Richard A. Jubinville and Robert D. Arsenault, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p552-562

EBDA Outfall Meets Challenges of San Francisco Bay, H. B. Tennant, D. G. Gray and O. Fenton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p639-649. EPCOT, CE June 83, p38-40.

Field Experience: Another Facet of Professional Development, David T. Biggs, CE Dec. 83, p54-55.
Innovations Cut Costs of a Power Plant's Water
System, R. Paul Narong and Joseph Funston, CE

July 83, p46-49. Kenai, Alaska, Outfall Crosses Tidal Flat, Loren D. Leman and Vince W. Rybel, (Pipelines in Adverse

Environments II, Mark Pickell, ed., 1983), p573-578. Mall, CE June 83, p54-55.

Modified Reel Methods for Subsea Arctic Pipelines, Peter P. Bryce and Jeffrey M. Key, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983).

p486-499. N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures, American Society of

Civil Engineers, 1983, 23pp. Oil Platform, CE June 83, p44-45.

Pipeline Construction in Arctic & Sub Arctic Regions,

Michael J. Wagner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p500-524.

Record Concrete Box Girder Spans Houston Ship Channel, Stephen B. Quinn, CE Nov. 83, p46-50. San Francisco's Southwest Ocean Outfall, Y. Eisenberg

San Francisco's Southwest Ocean Outlait, Y. Elsenberg and D. D. Treadwell, (Proceedings of Coastal Engi-neering 82, Billy L. Edge, ed., 1983), p2418-2435. Simulation and Analysis of Construction Operations, Boyd C. Paulson, Jr., Sarah A. Douglas, Anthony Kalk, Ali Touran and Graeme A. Victor, TC Aug. 83,

p89-104

Sugar Pine Pipeline Design and Construction, David A Aitken, (Pipelines in Adverse Environments II, Mark

Pickell, ed., 1983), p34-48.

Trans-Panama Pipeline System Geotechnical Studies, R. W. Heneks and G. R. Thiers, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p668-681. Underground Transit Station Construction in Japan, Boyd C. Paulson, CO March 82, p23-37.

Boyd C. Paulson, CO March 82, p.23-37.

Construction planning
Cracks in Nodes Delay New York City Convention
Center at Least Six Months, CE Sept. 83, p10.
Fencing a Bar Chart, John W. Melin and Barry
Whiteaker, CO Sept. 81, p497-507.
Geotechnical Considerations of Las Vegas Valley,
Joseph M. Cibor, (Geological Environment and Soil
Properties, Raymond N. Yong, ed., 1983), p351-373.
Railway Construction, Alfred E. Fazio,
Robert N. Fazio and E. K. Tryon, TE Jan. 83,
n73-87.

p73-87.

Recovery of Home Office Overhead in a Construction Delay Claim-- the Rejection of the Eichleay Formula, CE Sept. 83, p36.

Resource Sharing in Linear Construction, Srilal Perera,

CO March 83, p102-111.

Scheduling: Effective Methods and Techniques, Elise Hosten McGough, CO March 82, p75-84.
Time Impact Analysis—Forensic Scheduling, David M.

Lee, (Liability in Construction Management, David M. Lee, ed., 1983), p43-55. Utility Corridors for Pipeline Construction, Ralph H.

Sandmeyer, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p420-430.

Construction practices

Building Construction: More than Inspection Is Needed to Prevent Problems, Albert L. Gouwens, CE June 83, p6

Building Trends: The View from Houston, Gene Dallaire, CE July 83, p33-38. Innovations in Nuclear Concrete Construction, Clyde

B. Tatum, CO June 83, p131-145.
Inspecting Buildings During Construction: Are We Doing a Good Enough Job? Eugene E. Dallaire, CE Jan. 83, p50-55.

Construction procedure Building Construction: More than Inspection Is Needed to Prevent Problems, Albert L. Gouwens, CE June

Case History: Incorporating Old Pier in New Facility, Frank W. Pita, (Proceedings of Ports 83, Kong Wong, ed., 1983), p299-313.

Coastal Applications of Side Scan Sonar, David R. Patterson and Joan Pope, (Coastal Structures '83, J.

R. Weggel, ed., 1983, p902-910.
Critical Decision Making During Construction, David B. Ashley, Kazuyoshi Uehara and Burke E. Robinson, CO June 83, p146-162.
Dynamic and Static Design Considerations for Under-

ground Chambers, Alfred J. Hendron, Jr. and Gabriel Fernandez, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p157-197.

Evaluating Construction Failures, Harvey A. Kagan, CO Dec. 83, p460-472.
The Evolution of Prefabrication in Marine Structures.

The Evolution of Pretabrication in marine structures, Charles W. Nelson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p471-479.

Ground Movements Caused by Braced Excavations, Thomas D. O'Rourke, GT Sept. 81, p1159-1178. Incremental Launching of Structures, Wilhelm Zellner CT Est. 82, 2520-531. and Holger Svensson, ST Feb. 83, p520-537.

Marine Parkway Bridge Truss Member Replacement, Robert A. Martin and Jerome S. B. Iffland, ST July 83, p1602-1616.

Micro-Graphic Computer Tilt-Up Wall Life Analysis, Elmer H. Payne, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p660-670.

Planning Railway Construction, Alfred E. Fazio, Robert N. Fazio and E. K. Tryon, TE Jan. 83,

p73-87.

Rehabilitation of Cyclopean Concrete Wharf, Rodney P. Lundin, (Proceedings of Ports 83, Kong Wong, ed.,

1983), 9816-827.
Segmental Post-Tensioned Dolphin at Tagrin Point, Samir G. Mattar, CO Sept. 83, p276-285.
Spending Beach Breakwater at Saldanha Bay, Ir. D. Zwemmer and Ir. J. van 't Hoff, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed..

1983), p1248-1267.
Whatf Design and Construction - Port of Oakland,
George C. Fotinos, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p141-151.

Willow Creek Inlet, Wallace A. English and Larry D. Simpson, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p159-164.

Construction procedures Construction of Mound Breakwaters, Sverre Kjelstrup and Per Bruun, (Coastal Structures '83, J. R. Weggel, ed., 1983), p140-156.

Highway Projects - Can They Be Done in Half the Time? Corinne S. Bernstein, CE Sept. 83, p50-54. Innovations Cut Costs of a Power Plant's Water System, R. Paul Narong and Joseph Funston, CE July 83, p46-49.

Construction site accidents

Downgrading Construction Incidents, V. K. Handa and Doug Rivers, CO June 83, p190-205

Implementing Effective Traffic Control Plans in Construction Zones, Harold R. Hofener, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p106-112. OSHA Regulations Effect on Construction, Enno Koehn and Kurt Musser, CO June 83, p233-244.

Overpass Collapse Blamed on Falsework, CE Apr. 83,

Owner's Guidelines for Selecting Safe Contractors, Nancy M. Samelson and Raymond E. Levitt, CO Dec. 82, p617-623.

Reducing Construction Failures and Their Legal Costs, CE July 83, p14. Traffic Control at Freeway Work Sites, Zoltan A.

Nemeth and Nagui M. Rouphail, TE Jan. 83, p1-15.

Field Experience: Another Facet of Professional Development, David T. Biggs, CE Dec. 83, p54-55.
Pedestrian Safety Through Work Zones: Guidelines,
Himmat S. Chadda and Hugh W. McGee, TE Nov.

83, p785-799. Prediction of Highway Construction Noise Levels, William Bowlby and Louis F. Cohn, CO June 83, p163-180.

Single Crane Location Optimization, Walter E. Rodriguez-Ramos and Richard L. Francis, CO Dec. 83, p387-397.

Consultants

The Construction Manager as Expert Witness, George Anthony Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p73-79.

Consulting engineers

A/E Business Hits Record Low for 1982; Optimistic for

1983, CE Feb. 83, p6 Engineer Roles in the Public Participation Process,

Engineer Roles in the Fuolic Participation Process, Bruce M. Thomson, Timothy De Young and Con-stance J. Meadowcraft, El July 83, p214-222. Market Research and the Engineering Firm, Howard Hoyt Hilton, CE Aug. 83, p55-57. Micro-Computers in the Consulting Office, Roger F. Weiss, (Proceedings of the Eighth Conference on

Electronic Computation, James K. Nelson, Jr., ed., 1983), p15-27.

Consulting services
Consulting Engineering is Motivating People, David Novick, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p68-84.

An Investigation of the Motivation of Project Managers

and Department Heads in Consulting Engineering Firms, Brian J. Lewis, (Improving Productivity, J. R. King Jr., ed., 1983), p28-40.

Preliminary Design Services—Not Simply a Proposal,

Michael C. Loulakis, CE June 83, p30.

Container shipping

Case History: Incorporating Old Pier in New Facility, Frank W. Pita, (Proceedings of Ports 83, Kong Wong,

ed., 1983), p299-313.
'CONBATCH' A Container Terminal Concept for the Future, Ernst G. Frankel, (Proceedings of Ports 83,

Kong Wong, ed., 1983), p234-240. Container Terminal at Port of Madras - A Case Study.

Container terminal at Port of Madras - A Case Study, V. Tapasvi, (Proceedings of Ports 83,/n Kong Wong, ed., 1983), p114-128.

Design of Yard Entrance Improvements: Port of Oakland, John F. Aidoo, Jefferson M. Hilliard, Richard A. Woodman and Gary La Bonte, (Proceedings of Ports 83, Kong Wong, ed., 1983), p241-253.

Developments in Marine Container Terminals, Leo

Developments in Marine Container Terminals, Leo Donovan and Phillip Radzikowski, (Proceedings of Ports 83, Kong Wong, ed., 1983), p97-106.
Modernization and Upgrading of Shoreside Container Cranes, William L. Casper, (Proceedings of Ports 83, Kong Wong, ed., 1983), p107-113.
Modernization of a Breakbulk Terminal to an Omni-Terminal at the Port of Long Beach, Charles F. Connors, (Proceedings of Ports 83, Kong Wong, ed., 1983), p872-815. 1983), p802-815.

Modernization of a Container Terminal, Walter D. Ritchie and Wade W. Watson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p254-268.

Modernization of Castle Island Marine Terminal,

Morris S. Levy and David B. Weiner, (Proceedings of Ports 83, Kong Wong, ed., 1983), p649-661.

Containerization

Cost Comparison of Container Handling Techniques, George Christou Hatzitheodorou, WW Feb. 83, p54-62.

Modernization and Upgrading of Shoreside Container Cranes, William L. Casper, (Proceedings of Ports 83, Kong Wong, ed., 1983), p107-113.

Containers

Cost Comparison of Container Handling Techniques, George Christou Hatzitheodorou, WW Feb. 83, p54-62

Wharf Rehabilitation Rodney Terminal Port of Saint John, New Brunswick, Canada, Garnet A. Phinney and S. Reid Giffin, (Proceedings of Ports 83, Kong Wong, ed., 1983). p456-470.

Buried Waste Characterization Using Air Monitoring Instrumentation, David Lipsky, (National Conference on Environmental Engineering, Allen Medine, et al,

eds., 1983), p861-866

Finite Element Model of Fracture Flow and Transport, Peter S. Huyakorn, James W. Mercer and Barry H. Lester, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

and Their Impact on CMI Engineering Practice, w. C.
Chen, et al, eds., 1983), p1166-1169.
Groundwater Contamination due to Continuous Sources, Anand Prakash, HY April 82, p572-90.
Lehigh Electric Site Superfund PCB Cleanup Case History, Roy C. Peterson, Anthony S. Bartolome and Michael H. Corbin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983) n.766-774 1983), p766-774.

Sediment-Contaminant Transport Model, Yasuo Onishi, HY Sept. 81, p1089-1107. Trichloroethylene Removal by Packed Column Air Stripping: Field Verified Design Procedure, Michael

D. Cummins and James J. Westrick, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p442-449

Two-Point Method of Dispersivity Evaluation for Tracer Tests, A. David Parr and Dennis D. Lane, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p29-34. Contamination

Field Evaluation of Air-Stripping Processes for Organic Contaminant Removal from Ground Water, Walter A. Feige and Dominick D. Ruggiero, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p32-33.

The Successful Cleanup of Contaminated Groundwater at Woodland Park, Michigan, Albert R. Posthuma, John G. Kraus and Julie A. Rutherford, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p775-782.

Continental shelves
Continental Shelf Sediment Transport: A Coupled
Model for Flow and Sediment Dynamics, William D. Grant and Scott M. Glenn, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p124.

Engreering, Traing Tau Sneit, etc., 19-30, p.124.
Energy and Native Concerns in the U.S. Aretic, Joanne
Barnes Jackson, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p.2145-2162.
Long-Term Observations of Sediment Transport on the

Continental Shelf: East and West Coast of the United States, David A. Cacchione, Bradford Butman and David E. Drake, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p123. OCS Development in the Pacific Region: Status and

Issues, Ronald Ritschard and Sharon Maves, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

Delta College and Protection of OCS Cultural and Biological Resources,

Mary Elaine Warhurst, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2108-2115.

Santa Barbara Petroleum Transportation Committee, Douglas E. Ucnikura, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2096-2107.

Contingency

Probabilistic Estimating: Mathematics and Applica-tions, James E. Diekmann, CO Sept. 83, p297-308.

Continuing education

ASCE Offers Continuing Education Courses, CE June 83, p70. Mandatory Continuing Education: A Legislative Myth?

Arthur T. Nielsen, CE Feb. 83, p34-36.

Buckling of Beams with Concentrated Moments, Peter E. Cuk and Nicholas Sr. Trahair, ST June 83, p1387-1401.

Creep in Continuous Beam Built Span-by-Span, Zdenek P. Bazant and Jame Shaujen Ong, ST July 83,

p1648-1668

Equivalent Linearization for Continuous Systems, C. M. Krousgrill, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p271-274.
Inelastic Behavior of Continuous Prestressed Concrete
Beams, M. Z. Cohn and Y. Frostig, ST Oct. 83,

p2292-2309.

Minimum Weight Plastic Design of Continuous Beams, Yuhshi Fukumoto and Mitsuru Ito, ST July 81, p1263-1277.

Optimal Strength and Stiffness Design of Beams, S. Kanagasundaram and Bhushan L. Karihaloo, ST

Jan. 83, p221-237. Random Vibration of Continuous Beams, Ashwin Shah and D. A. Gasparini, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p259-262.

Continuous structures

Dynamic Forces in Continuous Slab Railway Tracks, Steven A. Smithers and Levon Minnetyan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p343-346.

Modal Methods in Continuous Bridge Deck Statics. Antonio G. Zechini, ST June 83, p1507-1517.

Continuum mechanics
Continuum Modelling of Discrete Structures, Norris
Stubbs and Harold Fluss, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983),
p475-478.

Contract administration
Liability: Attitudes and Procedures, Robert E. Vansant, El Oct. 83, p276-281.

Contract terms

Are "No Damages for Delay" Clauses Really Effective,
Michael C. Loulakis, CE July 83, p31. Construction Contract, Barge not Part of Bridge, CE

Feb. 83, p16.

Feb. 83, p16.
Construction Contract, Stop Order, CE April 83, p22.
Contract Arrangements in the Third World, Peter R.
Morgan and M. H. Kamil, El Oct. 82, p243-250.
Contract, Preliminary Plans, CE Sept. 83, p26.
OSHA, Multi-Employer Site, CE Apr. 83, p22.
Subcontractors, Indemnification, CE April 83
Who Owns the Contract Documents, Michael Loulakis,

CE Nov. 83, p40.

Contracting
U. S. Bridge Engineering: Don't Change Mode of Design Contracting, R. C. Cassano, CE Nov. 83, p6.

Are "No Damages for Delay" Clauses Really Effective, Michael C. Loulakis, CE July 83, p31. Construction Cartels, A. I. B. Pengiran Damit, El Jan.

83, p45-49.

Construction Specifications: A One-Book Deal, Joseph Goldbloom, CO Dec. 80, p601-603. Contractor's License, CE June 83, p22. Cost Control and the Contractor, Neal B. H. Benjamin,

(Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p130-137. Integration of Client/Contractor Project Control, James

Integration of Chent/Contractor Project Control, James F. Warren and Richard A. Mazzini, (Current Practice in Cast Estimating and Cast Control, Victor F. Spruill, et al., eds., 1983), p224-235.

Labor-Contractor Dialogue Transforms Worksite Atmosphere, Marie A. Casey, CE Nov. 83, p64-68.

License, CE Aug. 83, p18.

Owner's Guidelines for Selecting Safe Contractors, November 1981, pp. 1881, pp.

Nancy M. Samelson and Raymond E. Levitt, CO Dec. 82, p617-623.

Pre-Bid Discussions with Contractors, CE Jan. 83, p26.

Contracts

Computers: The Ins and Outs of the Purchasing Contract, Timothy C. O'Connor, CE Feb. 83, p37-39. Construction Contract, Additional Expense, CE April 83, p22.

Contract Arrangements in the Third World, Peter R. Morgan and M. H. Kamil, EI Oct. 82, p243-250. DOD Issues New Policies for A/E Contracts, CE Aug. 83, p10.

Liability: Attitudes and Procedures, Robert E. Vansant, El Oct. 83, p276-281.

Owner Management of Risk in Construction Contracts, Palmer H. Graham, (Current Practice in Cost Esti-mating and Cost Control, Victor F. Spruill, et al, eds., 1983), p207-215.

Payment Timing as a Factor in Bid Evaluation, Shlomo

Selinger, CO Sept. 83, p335-341.

Preliminary Design Services-Not Simply a Proposal, Michael C. Loulakis, CE June 83, p30.

Michael C. Louinais, C. June 03, pp.0.
Public Contracts, CE Sept. 83, p26.
Public Works Contract, CE Oct. 83, p27.
Temporary Heating in Construction Contracts, Haim Schlick, CO Dec. 83, p447-459.
Unjust Enrichment, CE Dec. 83, p18.

Who Owns the Contract Documents, Michael Loulakis, CE Nov. 83, p40.

Contracts, claims

Consolidation of Arbitration Proceedings, Michael C. Loulakis, CE Apr. 83, p34.

Liability in Construction Management, David M. Lee.

ed., 1983, 83pp.
Payment Witholding, CE Oct. 83, p27.
Recovery of Home Office Overhead in a Construction Delay Claim-- the Rejection of the Eichleay Formula, CE Sept. 83, p36.

Time Impact Analysis—Forensic Scheduling, David M. Lee, (Liability in Construction Management, David M.

Lee, ed., 1983), p43-55.

Control equipment

Design of Modal Control of Structures, Oren Vilnay, EM Oct. 81, p907-915.

Control systems

Experiments on Active Control of Floating Platforms, Norris Stubbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 9577-580. Optimal Actuators Placements for Control of Flexible Civil Engineering Structures, Oye Ibidapo-Obe, (Recent Advances in Engineering Mechanics and Their

Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p335-338.

An Adaptive FEM for Convection-Diffusion Problems, W. G. Szymczak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 814-817. Dispersion in Three Dimensions: Approximate Analytic Solutions, Budhi Sagar, Hy Jan. 82, p47-62. Free and Forced Convection Effects on Evaporation,

Ben L. Sill, HY Sept. 83, p1216-1231.

Conversion
Vector Computing: Requirements and Constraints, Kenneth W. Neves, B. Dembart, D. S. Dodson, J. G. Lewis and W. G., Poole, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p28-36.

Cooling systems
Recirculation Study for Alternative Once-Through Power Plant Cooling Systems, Daniel T. Chan and Fred H. Wend, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1586-1599.

Cooling towers on Flexible Foundations, Julian A. Cooling Towers on Flexible Foundations, Julian A. Fames G. Croll and David P. Billington, ST Oct. 83, p2248-2264

ST Oct. 85, 12248-2264.
Dynamic Response of Finite Element Shells on Columns, T. Y. Yang and Rakesh K. Kapania, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983), p234-237.

Let Temperature Diversity in Hubrid Cooling Suc.

Lake Temperature Dynamics in Hybrid Cooling Sys-tem, T. W. Sturm, J. M. Fulford and K. J. Fay, EE

June 83, p668-684.

June 83, p668-684.
Seismic Response of Cooling Towers on Interactive Shallow or Deep Foundations, Bor-Jen Lee and Phillip L. Gould, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p247-250. Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289. Time Series Analysis of Cooling Tower Wind Loading, D. Aubrey Reed and Robert H. Scanlan, ST Feb. 83, p538-548.

p538-554. Wind-Buckling Approach for R/C Cooling Towers, Wolfgang Zerna, Ihsan Mungan and Walter Steffen, EM June 83, p836-848.

Cooling Water Facilities at a Nuclear Station, William Chediali and Ioseph S. Kanovich, .. Hurst, Bomi M. Ghadiali and Joseph S. Kanovich,

EY March 83, pl-6.
Cooling Water Supply-Disposal in Coastal Aquifer,
Masanobu R. Fujioka and Akshai K. Runchal, EY June 83, p88-102

Environmental and Engineering Considerations in Designing Coastal Water Intakes, P. Hofmann, Y. G.

Musalli and E. P. Taft, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2308-2321. Heated Discharge in an Estuary: Case Study, James B. Nystrom, George E. Hecker and Han C. Moy, HY Nov. 81, p1371-1406.

Ice Pond Cooling System for Power Plants, Arthur C. Miller, Jorge A. Pena, John Urbsanski and Sonja N. Kerr, EY Sept. 83, p199-206.

Lake Temperature Dynamics in Hybrid Cooling System, T. W. Sturm, J. M. Fulford and K. J. Fay, EE

June 83, p668-684.

Power Plant Cooling Systems, Daniel T. Chan and Fred H. Wend, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), 1586-1599.

Saline Water Use Prospects: Colorado River, Michael

B. Bessler, IR June 83, p221-231. Simulation and Analysis of Cooling Lake Ecosystems: Impacts of Power Plant Operations, D. B. Porcella, G. L. Bowie, T. M. Grieb and R. K. Kawaratani, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p797-804.

Study on Sediment Transport in a Power Station

Harbor Basin, Kohki Maruyama, Ryoichi Kajima, Akio Narihiro and Kosuke Kondo, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2357-2375.

Thermal Impact Studies for French Coastal Nuclear Sites, Y. Coeffe, P. M. Clique and B. Manoha, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2342-2356.

Thermal Storage, Now and Future, CE Dec. 83, p42-45. Water Conservation and Reuse at Coal-Fired Power Plants, Frank L. Shorney, WR Oct. 83, p345-359.

Area Computation Using Salient Boundary Points, Fouad A. Ahmed, SU March 83, p54-63.

Coral reefs and islands
Assessing and Managing Coral Reef Visual Resources, Kerry J. Dawson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1507-1517.

Management Problems of the Great Barrier Reef, Eric

F. Bird and Peter W. Cullen, (Coastal Zone '83 Orville T. Magoon, et al, eds., 1983), p1518-1534. Research for Management: GBR Marine Park, Australia, John L. Kermond, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p2877-2889. Corners

Intensity of Corner and Stress Concentration Factor, Norio Hasebe and Jiro Iida, EM Feb. 83, p346-356.

Corrosion of Steel Sheet Piles in Port Structures, Valery

Corrosion of Steel Sheet Piles in Port Structures, Valery Buslov, WW Aug. 83, p273-295.

Evaluating External Pipeline Corrosion, William T. Mori and Gerald P. Dupoong, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p387-396.

Experimental and Analytical Investigation of Corrosion Fatigue Behaviour of Monopod Tubular Joints, S. S. Gowda, M. Arockiasamy, D. B. Muggeridge and D. V. Beddy. Becont Advances in Engineering Mechanics. V. Reddy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p593-596. Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro

Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-

2065.

Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309. Replacing Corroded Cables on a Cable-Stayed Bridge,

Juan Otaola, Jr., CE Sept. 82, p78-80.
Structural Evaluation of Marine Structures, Jerry J.
Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677.

Ensuring Water Quality in a Distribution System, Karl B. Stinson and Keith E. Carns, EE Apr. 83, p289-304. Polymer Modified Glass Fiber Reinforced Cement

(PGRC) as a Protective Buffer Coating over Thin Film Anti-Corrosion Coatings, P. A. White, (*Pipelines in Adverse Environments II*, Mark Pickell, ed., 1983),

p238-258.
Polyphosphate Additions for Corrosion Control in Water Distribution Systems, Shankha K. Banerji, John T. O'Connor and David J. S. Huang, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p97-109.

Protecting Post-Tensioning Tendons in Concrete Struc-tures, Morris Schupack, CE Dec. 82, p43-45.

Corrosion resistance

Acid Pickling Tanks Relined to Resist Abuse, CE July

Polyethylene Lining Renews Damaged Pipe, CE July 83, p24.

Cost analysis

Computer Aided Optimization of Bridge Girders, B. G. Rabbat and T. Takayanagi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p646-659.

Cost Comparison of Container Handling Techniques, George Christou Hatzitheodorou, WW Feb. 83,

p54-62

Cost Trade-Off Analysis for Bus Facility Expansion. Wilbert E. Wilhelm and Wyley J. Parks, TE Jan. 83,

p124-136.

Energy and Environmental Audits: Design for Cost Savings and Minimum Emissions, John A. Chicca, Daniel H. Johnnie, Jr. and John F. Nagy, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p5-7. Hauling Distance and Transfer Station Location, Ely

Anthony R. Ouano, EE Dec. 83, p1429-1433

O & M Costs and Optimal Capacity Expansion, Frank Pearson and Charles R. Scherer, EE Aug. 81, p619-633. Optimizing GAC Systems, Robert M. Clark, EE Feb. 83, p139-156.

Optimum Floor Elevation in Storm Tide Flood Zone Courtland A. Collier and James R. Williams, Jr., WW

Feb. 83, p41-53 Water Reuse in Water Surplus Environment, John W. Smith and Clifton Ritter, WR July 83, p223-235. What Type of Sewer Pipe is Best? Life-cycle Cost Analysis Yields Answer, Thomas Moss and Edward J. Jankiewicz, CE Oct. 82, p75-76.

Cost control

Accounting Control of Project Costs, Walter A. Saunders, Jr., (Improving Productivity, J. R. King Jr.,

ed., 1983), p11-15.

Cost and Schedule Controls During Construction,
Jeffrey L. Bessa, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p187-201.

Cost Control and the Contractor, Neal B. H. Benjamin, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p130-137. Cost Control at the Project Level: Construction

Management, Dewayne E. Hahn, (Improving Productivity, J. R. King Jr., ed., 1983), p1-3. Cost Control During the Design Phase, Warren Dean, (Current Practice in Cost Estimating and Cost Control,

Victor F. Spruill, et al, eds., 1983), p68-84. Cost Cc. rol: Integrated Cost/Schedule Performance, Wayne M. Stevens, (Improving Productivity, J. R.

wayne M. Suevens, (Improving Productivity, J. King Jr., ed., 1983), p16-27.
Critique - Conceptual Estimating, Risk Analysis and Cost Planning, Daniel W. Halpin, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et

al, eds., 1983), p1-5. Critique - Cost Control and the Owner, Rodney E. Cox. (Current Practice in Cost Estimating and Cost Control,

Victor F. Spruill, et al, eds., 1983), p202-206.
Critique - Cost Estimating and Project Management,
Robert I. Carr, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983),

Direct Material Cost Tracking and Forecasting, Robert E. Templeton, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p236-245. Improving Productivity, J. R. King, Jr., ed., 1983,

Optimal Cost Control Strategies for Attached Algae, Raymond P. Canale, Martin T. Auer, Yuzuru Matsuoka, Thomas M. Heidtke and Steven J. Wright, EE Dec. 83, p1225-1242.

Owner's Guidelines for Selecting Safe Contractors, Nancy M. Samelson and Raymond E. Levitt, CO

Dec. 82, p617-623.

Risk Analysis of Resource Levelled Networks, Thomas Byers and Paul Teicholz, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p178-186.

A Specification for Effective Cost and Project Control, Alfred L. Dellon, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983),

p85-94.

A System for Integrated Project Control, James M. Neil, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p138-146.

That's What I've Been Doing All Along But it Wasn't Organized, Aaron Rose, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p21-29.

Cost effectivene

Compressed Air Use in Soft Ground Tunneling, Robert J. Jenny, CO June 83, p206-213.

Hauling Distance and Transfer Station Location, Ely

Anthony R. Ouano, EE Dec. 83, p1429-1433. New Tunnel Design Cuts Project Cost by 40%, CE Nov. 83, p15-16.

Cost engineering
Use of Cost Engineering Tools to Establish Damages,
James J. O'Brien, (Liability in Construction Management, David M. Lee, ed., 1983), p56-67.

Critique - Conceptual Estimating, Risk Analysis and Cost Planning, Daniel W. Halpin, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et

al, eds., 1983), p1-5.
Critique - Cost Estimating and Project Management,
Robert I. Carr. (Current Practice in Cost Estimating
and Cost Control, Victor F. Spruill, et al, eds., 1983),

p61-67.

Estimating Construction Costs in Developing Countries, Craig L. Fries, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p95-104.

GSA's New Project Budgeting Procedure, Donald E. Parker, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p45-60.

Control, Victor r. Spruin, et al, eds., 1705), pre-oc. Long-Range Forecasting Highway Construction Costs, Zohar Herbsman, CO Dec. 83, p423-434. Simplified Estimating Methods for New Technologies, John O. Milliken, Thomas C. Ponder, Jr., John E. Spessard and Cynthia M. Harvey, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p30-44. That's What I've Been Doing All Along But It Wasn't

Organized, Aaron Rose, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p21-29.

Cost minimization

Chance Constrained Aggregate Blending, Sang M. Lee and David L. Olson, CO March 83, p39-47. Innovations Cut Costs of a Power Plant's Water

System, R. Paul Narong and Joseph Funston, CE

July 83, p46-49.
Integrated Wastewater Management, Bhagwan R.
Kansakar and Chongrak Polprasert, EE June 83, p619-630.

Optimal Diameter Selection for Pipe Networks, Ronald E. Featherstone and Karim K. El-Jumaily, HY Feb. 83, p221-234.

Optimization of Refuse Collection Systems, Anand V. Chiplunkar, S. L. Mehndiratta and P. Khanna, EE

Dec. 81, p1203-1210.

Optimum Design of Prestressed Concrete Tension Members, Antoine E. Naaman, ST Aug. 82, p1722-1738.

Cost savings Long-Span Bridge Computer Modeling, Thomas A. Fisher and Ramesh B. K. Rao, ST June 83, p1402-1413.

New Wastewater Process Cuts Plant Costs 60%, Stan A. Christopher and Russel Titus, CE June 83, p39-41.

Cost sharing

Regional versus Local Water Supply Planning, James E. Crews, WR Apr. 83, p179-185.

Skyscraper Design (Irr.), Morton H. Eligator, CE Dec. 83, p22.

Counterweight

Dynamic Response Analysis of Elevator Model, T. Y. Yang, H. Kullegowda, Rakesh K. Kapania and Anshel J. Schiff, ST May 83, p1194-1210.

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Crack propagation
Creep Crack Growth in a Ring Specimen, Michael H.
Bohun and Theodore Nicholas, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983),
p644-647.

Finite Element Modeling of Crack Band Propagation.

Zdenek P. Bazant and Luigi Cedolin, ST Jan. 83,

Nonlinear Fracture Process Zone in Concrete, M. Wecharatana and S. P. Shah. (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p993-996.

Predictions of Nonlinear Fracture Process Zone in Concrete, Methi Wecharatana and Surendra P. Shah.

EM Oct. 83, p1231-1246. The Rapid Tearing of a Wedge, J. P. Dempsey and E. B. Smith, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p471-474.

Acoustic Emission and Birefringence Behavior of Epoxies, H. Thomas Hahn and K. Hollmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p487-490. Analytical Studies of Expansive Solids in Concrete, R.

Iding and B. Bresler, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al, eds., 1983), p1028-1031. Application of Fracture Mechanics to Concrete, Sidney Mindess, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p794-797.

A Comparison of Finite Element J-Integral Evaluations for the Blunt Crack Model and the Sharp Crack Model, Y. C. Pan and J. M. Kennedy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p763-766.

Cracking and Shear Effects on Structural Walls, J. Dario Aristizabal-Ochoa, ST May 83, p1267-1277. Cracking at Openings in Prestressed Beams at Transfer, John B. Kennedy and A. M. El-Laithy, ST June 82,

p1250-1265.

Failure of an Earth Dam: A Case Study, Iqbal H. Khan, GT Feb. 83, p244-259. Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro

Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-Finite Element Analysis for Fracture Toughness

Testing, Michael P. Cleary and Brian L. Miller, EM June 83, p741-755. Finite Element Modeling of Crack Band Propagation, Zdenek P. Bazant and Luigi Cedolin, ST Jan. 83,

Spacing of Cracks in Reinforced Concrete, Zdenek P.

Bazant and Byung H. Oh, ST Sept. 83, p2066-2085.

Coalescence of Multiple Fatigue Cracks at a Notch, R. Perez and A. F. Grandt, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p997-1000.

Crack Spacing in Reinforced Concrete: Approximate Solution, Zdenek P. Bazant and Byung H. Oh, ST Sept. 83, p2207-2212.

Deformation of Cracked Net-Reinforced Concrete Walls, Zdenek P. Bazant and Byung H. Oh, ST Jan. 83, p93-108.

Discrete Crack Modelling in Reinforced Concrete, Victor E. Saouma and Anthony R. Ingraffea, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1005-1008.

Effect of Peening on Fatigue Life of Welded Details, Hans Hausammann, John W. Fisher and Ben T. Yen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p70-83.

Energy Release Rates Using a Peach-Koehler Concept, G. Omoike and C. R. Vilmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p483-486

Load Induced Cracks in Cement Paste, David Darwin

and Emmanuel K. Attiogbe, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1051-1054.

Singularities at the Tip of a Crack Normal to the Interface of an Anisotropic Layered Composite, Phuong H. Hoang and T. C. T. Ting, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p479-482.

Uplift Pressure in Crack Below Dam, Richard E. Goodman, Bernard Amadei and Nicholas Sitar, EY

Dec. 83, p207-221.

Modernization and Upgrading of Shoreside Container Cranes, William L. Casper, (Proceedings of Ports 83, Kong Wong, ed., 1983), p107-113. Single Crane Location Optimization, Walter E. Rod-

riguez-Ramos and Richard L. Francis, CO Dec. 83, p387-397.

Creep

Creep Behavior in Noncircular Tubes, Carl E. Kurt, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p683-686.

Creep Closure of an Opening in a Deep Potash Mine, Stephen T. Montgomery, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1024-1027.

Creep Crack Growth in a Ring Specimen, Michael H. Bohun and Theodore Nicholas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p644-647.

Creep in Continuous Beam Built Span-by-Span, Zdenek P. Bazant and Jame Shaujen Ong, ST July 83,

p1648-1668.

Creep Interaction of Salt and a Concrete Ring Structure, Nicholas J. Antonas, William T. Li, Kenneth M. S. Mark and Ching-Liu Wu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 987-690.
Creep of Concrete in Variable Environments, William L. Gamble, ST Oct. 82, p2211-2222.
Deformation Effects of Random Salt Creep Variation.

Linda J. Branstetter, Raymond D. Krieg and Charles M. Stone, (Recent Advances in Engineering Mechani and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1063-1066. Effect of Creep on Shear Modulus of Clays, George A.

Athanasopoulos and F. E. Richart, Jr., GT Oct. 83,

p1217-1232.

The Generalized Variational Principles in Theory of Creep, Ruifeng Wu and Xiaofeng Xi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p742-745.

Large-Strain Creep of Metals, Alan J. Levy and Macief P. Bieniek, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p1067-1070.

On Micromechanics of Strength Degradation in Metals, On Micromechanics of strength Degradation in Metals, S. Nemat-Nasser, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p642-643. Shallow Foundations on Frozen Soil: Creep Settlement, Branko Ladanyi, GT Nov. 83, p1434-1448.

Singular History Integral for Creep Rate of Concrete, Zdenek P. Bazant, Tatsuya Tsubaki and Zekai Celep,

EM June 83, p866-884. Tertiary Creep Model for Frozen Sands, John M. Ting,

GT July 83, p932-945. Time-Dependent Analysis of PC Cable-Stayed Bridges, M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83,

p1980-1996. Creep rupture Load-Duration Effects in Westerm Hemlock Lumber Ricardo O. Foschi and J. David Barrett, ST July 82, p1494-1510.

Tertiary Creep Model for Frozen Sands, John M. Ting, GT July 83, p932-945.

Critical path method Is Total CPM Really the Answer for Super Projects? Ronald M. Parsons, CE Nov. 83, p70-71.

Stochastic Network Model for Planning Scheduling, John C. Woolery and Keith C. Crandall, CO Sept. 83, p342-354.

Critical velocity

Incipient Motion of Particles under Oscillatory Flow, I Lenhoff, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1555-1568.

Crop production

Estimating Potential Evapotranspiration, George H. Hargreaves and Zohrab A. Samani, IR Sept. 82, p225-230.

Models of Alfalfa Yield and Evapotranspiration, Johannes C. Guitjens, IR Sept. 82, p212-222.

Crop yield Alfalfa Yield and Water Use in Commercial Fields, Robert W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p21-28.

Automated Weather Data Network for Agriculture,

Automated Weather Data Network to Agriculture, Kenneth G. Hubbard, Norman J. Rosenberg and David C. Nielsen, WR July 83, p213-222.

Crop Yield Models Adapted to Irrigation Scheduling, R. W. Hill and A. A. Keller, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p71-78.

Leaching Requirements for Managing Salinity, Glenn J. Learning requirements for Managing Sainhty, Olenh J. Hoffman, Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p409-416.

Models of Alfalfa Yield and Evapotranspiration, Johannes C. Guitjens, IR Sept. 82, p212-222.

Total Water Management for Alfalfa, J. C. Guitjens, P. -S. Tsui and J. M. Connor, (Advances in Irrigation and Drainage Libbs Borrelli ed. 1983), p62-70.

Drainage, John Borrelli, ed., 1983), p63-70.

Assessing Waterlogging Controls I: Hydrologic Model, Ssessing Waterlogging Controls I: Hydrologic Model, H. J. Morel-Seytoux, A. R. Simpson and R. A. Young, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p124-133.

Acid Rain May Not Be Damaging Fruits and Vege-

tables, CE June 83, p18.

Daily Trends in Soil Evaporation and Plant Transpiration for Irrigated Corn, Norman L. Klocke, Dale F. Heermann and Darell G. Watts, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

Minimum Weight Plastic Design of Continuous Beams, Yuhshi Fukumoto and Mitsuru Ito, ST July 81, p1263-1277.

Arctic Pipeline River Crossings—Design Trends and Lessons Learned, Wim M. Veldman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p70-83.
Influence of Northern Pipelines on River Crossing Design, E. K. Yaremko and R. H. Cooper, (Pipeline in Adverse Environments II, Mark Pickell, ed., 1983),

Crushing

Analytical Studies of Expansive Solids in Concrete, R. Iding and B. Bresler, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1028-1031.

Crystal growth
Frazil Ice, Steven F. Daly, (Frontiers in Hydraulic
Engineering, Hung Tao Shen, ed., 1983), p218-223.

Headwall Influence on Scour at Culvert Outlets, Cesar Mendoza, Steven R. Abt and James F. Ruff, HY July

83, p1056-1060. Load Reductions on Buried Rigid Pipe, Lawrence C. Rude, TE Jan. 83, p107-123.

Currents

Combined Wave-Current Forces on Horizontal Cylinders, B. D. Chandler and J. B. Hinwood, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2171-2188.

Effect of Wave-Current Interaction on the Wave

Parameter, Yu-Cheng Li and John B. Herbich, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p413-438.

Edge, ed., 1963), p413-436.

Effects of Currents on Wave Drag and Inertia Loads,
Terence S. Hedges, (Coastal Structures '83, J. R.
Weggel, ed., 1983), p461-473.

Mechanics of Static Catenary with Current Loading,
Chue Seck-Hong, WW Aug. 83, p340-349.

NOAA/NOS Methods of Tidal Current Predictions,

Elmo E. Long, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1168-1177.

Opposing Wave Effect on Momentum Jets Spreading Rate, Nabil M. Ismail and Robert L. Wiegel, WW

Nov. 83, p465-483. Shore-Parallel Flows in a Barred Nearshore, Brian Greenwood and Douglas J. Sherman, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1677-1996. Wave and Current Interaction in the Near Bed Region,

Patrick H. Kemp and Richard R. Simons, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p404-412.

Collapse Loads of Nonprestressed R/C Curved Beams, M. A. Mansur and B. V. Rangan, ST Apr. 83, p993-1009

Elastic Stability of Curved Members, Chai Hong Yoo and Phillip A. Pfeiffer, ST Dec. 83, p2922-2940. Large Deflection of Curved Beam with Shear Deformation, Izhak Sheinman, EM Aug. 82, p636-647.

Parametric Instability of Curved Girders, Syed Amjad

Ali, ST Apr. 83, p829-842. Residual Stress and Rebound Deformation in Curved Glulam Timber Members, Vijaya K. A. Gopu, Shyam N. Prasad and Sanjay V. Sohoni, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p399-402.

Ultimate Strength Analysis of Curved I-Beams, Hiroshi Yoshida and Kouji Maegawa, EM Feb. 83, p192-214.

Buckling of Plastic Tubes under Cyclic Bending, Stelios Kyriakides and Ping-Kay Shaw, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p664-667.

Cyclic Axial Pile Reponse-Alternative Analyses, Harry G. Poulos, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE,

1983), p403-421.

Cyclic Shear and Dowel Action Models in R/C, Rafael Jimenez, Richard N. White and Peter Gergely, ST

May 82, p1106-1123.

Cylic Loading of Spirally Reinforced Concrete,
Surendra P. Shah, Apostolos Fafitis and Richard

Arnold, ST July 83, p1695-1710.

Dynamic Centrifuge Modeling, K. Arulanandan and A. Anandarajah, (Recent Advances in Engineering Me-

Anadarajan, (recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p626-629. Elasto-Plastic Analysis of Material with Uniaxial Symmetric Tresca Yield Condition and Cyclic Loading, Morteza A. M. Torkamani and Mohammad R. Pajand, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p738-741. Endochronic Modeling for Shear Hysteresis of Sand, Han-Chin Wu and Jiun-Chyuan Sheu, GT Dec. 83,

p1539-1550.

Evaluation of Liquefaction Potential Using Field Performance Data, H. Bolton Seed, I. M. Idriss and

Ignacio Arango, GT March 83, p458-482.
Impact Stresses During Dynamic Compaction, Paul W.
Mayne and Jones S. Jones, Jr., GT Oct. 83,

p1342-1346

Modeling of R/C Joints under Cyclic Excitations, Filip C. Filippou, Egor P. Popov and Vitelmo V. Bertero, ST Nov. 83, p2666-2684.

Obtaining Moduli from Cyclic Pressuremeter Tests,

Jean-Louis Briaud, Robert L. Lytton and Jung-Tsann Hung, GT May 83, p657-665.

Pore Pressure Development during Cyclic Loading, Ching S. Chang, Ching L. Kuo and Ernest T. Selig, GT Jan. 83, p103-107.

Simple Plasticity Model of Two-Surface Type, T. S. Tseng and G. C. Lee, EM June 83, p795-810. Steel Struts under Severe Cyclic Loadings, Egor P. Popov and Gary R. Black, ST Sept. 81, p1857-1881. Transient Stresses Induced in Sandbed by Wave

Loading, Kenneth R. Demars, GT Apr. 83, p591-602. Yield Boundary for Cyclic Loading of a Silty Clay, A. F. L. Hyde and S. J. Ward, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p99-110.

Cylinder

Scour Behind Circular Cylinders in Deep Water, Jorg Imberger, Des Alach and John Schepis, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1522-1554.

Cylinders

Analysis of Optimal Ocean Wave Energy Conversion, Michael E. McCormick, WW May 83, p180-198.
Combined Wave-Current Forces on Horizontal Cylinders, B. D. Chandler and J. B. Hinwood, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed.,

1983), 2711-2188.

Design of Vertical Chords in Deepwater Platform, Shouji Toma and Wai F. Chen, ST Nov. 83, p2733-2746.

Elastic Waves of a Cylinder in an Elastic Medium, Sumio G. Nomachi, Kenichi G. Matsuoka, Toshiyuki Ostolia and Normitsu Kishi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p407-410.

Flow around Fixed Circular Cylinders: Fluctuating Loads, Cesar Farell, EM June 81, p565-588.

A Helical Tape on Cylinder Subjected to Bending, William R. Spillers, Edward D. Eich, Allan N. Greenwood and Russell Eaton, EM Aug. 83, p1124-1133.

Maximum Wave Force on a Horizontal Cylinder, S. P. Rai and M. H. Abdul Khader, (Coastal Structures '83,

J. R Weggel, ed., 1983), p482-491. The Model Study of a Cylindrical Pier Under Irregular Wave Action, Yi-Qing Sun and Hai-Gui Kang, (Coastal Structures '83, J. R. Weggel, ed., 1983), p447-460.

Optimization of Connecting Shell, Boubacar Diallo and Fernand Ellyin, EM Feb. 83, p111-126. Vertical Vs. Horizontal Cylinders in Waves, John H.

Nath, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p704-721.

Wave Forces on a Submerged Cylinder Near a Plane Boundary, N. Jothi Shankar, H. Raman and V. Sundar, (Coastal Structures '83, J. R. Weggel, ed., 1983), p492-504.

Cylindrical shells

Buckling of Eccentrically Loaded Curved Panels, Ted
T. Sokol, Jr., ST Sept. 83, p2097-2112.

Comparisons of Buckling Load Predictions for a Ring
Stiffened Cylinder, Minos Moussouros, (Recent
Advances in Engineering Mechanics and Their Impact
on Civil Engineering Practice, W. F. Chen, et al, eds.,
1983), p395-398.

Cylindrical Shells of Bimodulus Composite Materials.

Cylindrical Shells of Bimodulus Composite Materials, Charles W. Bert and V. Sudharkar Reddy, EM Oct.

82, p675-688

Dynamic Stability of Viscoelastic Cylindrical Shells, S. Dost and P. G. Glockner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p355-358.

Imperfection Sensitivity of Cylindrical Shells, B. O.

Almroth and Charles R. Rankin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1071-1074.

Transversely Isotropic Medium with Lined Hole, K. Chandrashekhara and P. Gopalakrishnan, EM Apr. 83, p377-393.

Stresses in Buried Cylindrical Tanks, Rudolf E. Elling, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p451-454.

Dam construction

Earth Reinforced Dams: First in U.S., CE Oct. 83,

Senate Committee Recommends New BuRec Project, CE July 83, p8.

Dam design

Earthquake-Resistant Design of Earth Dams, H. Bolton Seed, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p41-64. Probabilistic Study on Failure of Large Dams, Luis

Valadares Tavares and Joaquim Laginha Serafim, GT Nov. 83, p1483-1486.

Dam failure

Analyses of Flow Failures of Mine Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton

Seed, GT Feb. 83, p150-171.

Applicability of Dam-Break Flood Wave Models, Nikolaos D. Katopodes and David R. Schamber, HY

May 83, p702-721.

Asymptotic Solution for Dam Break on Sloping Channel, Bruce Hunt, HY Dec. 83, p1698-1706. Dam Safety and Risk-Based Decision Analysis, Chih Ted Yang and Thomas A. Luebke, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p475-479.

Direct Computation of Dam-Break Waves, Michael Amein, J. C. Li and T. S. Wu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p331-336. Earthen Dam Fails in Colorado: State Fears Major

Floods, CE July 83, p19. Failure of an Earth Dam: A Case Study, Iqbal H. Khan, GT Feb. 83, p244-259.

Hydrologic Evaluation of Dam Safety, Shou-Shan Fan, (Frontiers in Hydraulic Engineering, Hung Tao Shen, 1983), p451-458.

The Influence of Dam Failure Probabilities on Spillway Analysis, David E. Langseth and Frank E. Perkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p459-464.

Investigation of Flow Failures of Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton Seed, GT Feb. 83, p172-189.

Probabilistic Study on Failure of Large Dams, Luis Valadares Tavares and Joaquim Laginha Serafim, GT Nov. 83, p1483-1486.

Dam safety

Acoustic Emission for Dam Safety Monitoring, Daryl B. Simons, Rug-Ming Li, Yung Hai Chen, Thomas H. VonderHaar and Thomas A. Brubaker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p465-466.

California's Seismic Reevaluation of Embankment Dams, Donald H. Babbitt, William J. Bennett and Raymond D. Hart, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p96-112.

Dam Safety and Risk-Based Decision Analysis, Chih Ted Yang and Thomas A. Luebke, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p475-479.

Dam Safety -An Overview of a Risky Business,

William S. Bivins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p445-450. Hydrologic Evaluation of Dam Safety, Shou-Shan Fan, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p451-458.

The Influence of Dam Failure Probabilities on Spillway Analysis, David E. Langseth and Frank E. Perkins,

(Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p459-464.

Probabilistic Risk Assessment of Existing Dams, Haresh C. Shah, Martin W. McCann and Joseph B. Franzini, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p474.

Reservoir-Induced Macrocarthquakes: A Reassessment, Ronald B. Meade, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983),

Dam stability New Role of Drainage Systems in Dam Stability, William W. Stelle, Dennis I. Rubin, H. Joseph Buhac and Paul H. Anderson, EY Sept. 83, p181-191.

and Faul H. Anderson, E. F. Sept. 93, prolification of Engineers (Pankling of Engineers Approach, William F. Marcuson, Ill and Arley G. Franklin, (Seismic Design of Embankments) and Cayerus, Terry R. Howard, ed., 1983), p65-78.

Stability of Concrete Dam: Case History, William W.

Stelle, Dennis I. Rubin and H. Joseph Buhac, EY

Sept. 83, p165-180.

Wind Speed-Damage Correlation in Hurricane Fred-eric, K. C. Mehta, J. E. Minor and T. A. Reinhold, ST Jan. 83, p37-49.

Damage assessment
Fatigue Damage Assessment of Welded Structures, Mark D. Bowman and James T. P. Yao, (Proceedings of the W. H. Murse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p45-69. Seismic Reliability of Damaged Concrete Beams, M. Shinozuka and R. Y. Tan, ST July 83, p1617-1634.

Seismic Damage in Reinforced Concrete Frames, Hooshang Banon, John M. Biggs and H. Max Irvine, ST Sept. 81, p1713-1729.

Damage patterns
Procedure for Predicting Wind Damage to Buildings, Kishor C. Mehta, James R. McDonald and Douglas A. Smith, ST Nov. 81, p2089-2096.

Damping Damping Increase in Building with Tuned-Mass Damper, Kenny C. S. Kwok, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p323-326.

Effect of Tuned-Mass Dampers on Seismic Response, John R. Sladek and Richard E. Klingner, ST Aug. 83,

Fatigue and Model-Following Problems in Active Control of Vibrating Structures, Wang Dian-Fu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p327-330.

Prediction and Control of Pedestrian-Induced Vibra-

tion in Footbridges, John E. Wheeler, ST Sept. 82.

p2045-2065.

Response Analysis of Offshore Structures, Kapil C. Barik and Velu Paramasivam, WW Nov. 83, p363-379

Response Spectrum Method for Systems with Non-Classical Damping, Takeru Igusa and Armen Der Kiureghian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p380-384. Seismic Analysis of Structures with Dampers, David

Key, (Recent Advances in Engineering Mechanics and

Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p138-141.

Seismic Response of Friction Damped Braced Frames, Avtar S. F p1313-1323. Pall and Cedric Marsh, ST June 82,

Truck Suspension Models, Krishnan Kutty Kunjamboo and Colin O'Connor, TE Sept. 83, p706-720.

Accomplishments and Impacts of Reservoirs, Gordon G. Green, ed. and Earl E. Eiker, ed., 1983, 235pp. Asymptotic Solution for Dam-Break Problem, Bruce

Hunt, HY Jan. 82, p115-126. Conservatism of Probable Maximum Flood Estimates, Bi-Huei Wang and Russell W. Revell, HY March 83, p400-408.

Economic Feasibility of Flood Control Improvements, Ralph A. Wurbs, WR Jan. 83, p29-47. Flexible Dams Inflated by Water, Nicholas Manville Hitch and Rangaswami Narayanan, HY July 83, p1044-1048.

General Method for Critical Point on Spillways, Ian R. Wood, Peter Ackers and John Loveless, HY Feb. 83, p308-312.

Mission Viejo Dam and Lake: Centerpiece of Big Development, CE June 83, p14. New Role of Drainage Systems in Dam Stability,

William W. Stelle, Dennis I. Rubin, H. Joseph Buhac and Paul H. Anderson, EY Sept. 83, p181-191. New Water Projects for the West, CE Jan. 83, p8. Proceedings of the Conference on Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983,

617pp.

Pumping Eases Pressure on Utah Dam, CE Sept. 83,

Realistic Assessment of Maximum Flood Potentials, Donald W. Newton, HY June 83, p905-918. Reliability of Dam-Reservoir during Random Earth-

quake, Cheng Yi Yang, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p875-878.

Small Stream Channel Dam Aeration Characteristics, Thomas A. Butts and Ralph L. Evans, EE June 83,

Uplift Pressure in Crack Below Dam, Richard E. Goodman, Bernard Amadei and Nicholas Sitar, EY Dec. 83, p207-221.

Dams, arch

Dynamic Analysis of Arch Dams Including Hydro-dynamic Effects, John F. Hall and Anil K. Chopra,

EM Feb. 83, p149-167.

Earthquake Response of Dams with Wave Absorbing Reservoir Bottom, Gregory Fenves and Anil K. Chopra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p287-290. Stability of Concrete Dam: Case History, William W. Stelle, Dennis I. Rubin and H. Joseph Buhac, EY

Sept. 83, p165-180.

ams, earth

Characteristics of Guri Soils, Z. Prusza, D. E. Kleiner and A. V. Sundaram, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p183-199.

Comparison of 2-D and 3-D Dynamic Analyses of Earth Dams, Lelio H. Mejia and H. Bolton Seed, GT

Nov. 83, p1383-1398.

Design of Filters for Clay Cores of Dams, Peter H.

Vaughan and Hermusia F. Soares, GT Jan. 82, p17-31.

Dynamic Response and Liquefaction of Earth Dams, Tareg Ahmad Mansouri, John D. Nelson and Erik G. Thompson, GT Jan. 83, p89-100. Earth Reinforced Dams: First in U.S., CE Oct. 83,

p60-63. Earthen Dam Fails in Colorado: State Fears Major

Floods, CE July 83, p19.

Earthquake-Resistant Design of Earth Dams, H. Bolton Seed, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p41-64.

Erosion in Relation to Filter Design Criteria in Earth Dams, K. Arulanandan and Edward B. Perry, GT May 83, p682-698.

Failure of an Earth Dam: A Case Study, Iqbal H. Khan, GT Feb. 83, p244-259.

Filter Criteria for Geotextiles: Relevance and Use,

Chris R. Lawson, GT Oct. 82, p1300-1317.

San Luis Dam Slide—Operational Problems and Solutions, Raymond H. Williams and Daniel B. Steiner, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p125-137. Seismic Design, Analysis, and Remedial Measures to Improve Stability of Existing Earth Dams-Corps of Engineers Approach, William F. Marcuson, III and Arley G. Franklin, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p65-78. Seismic Displacement Analysis of Earth Dams, Sarada K. Sarma, GT Dec. 81, p1735-1739.

Senate Committee Recommends New BuRec Project,

CE July 83, p8.

Stress and Seepage Analysis of Earth Dams, G. C. Li and C. S. Desai, GT July 83, p946-960.

Unsteady Seepage Analysis of Wallace Dam, Mustafa M. Aral and Morris L. Maslia, HY June 83, p809-826.

Dams, embankment California's Seismic Reevaluation of Embankment Dams, Donald H. Babbitt, William J. Bennett and Raymond D. Hart, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p96-112.

Instrument Monitoring to Observe Dam Performance, R. J. Huang and M. F. Rogers, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p50-61.

Seepage from Free Water above Impermeable Tailings, Lewis T. Isaacs and Bruce Hunt, GT Nov. 81. p1563-1577.

Seismic Design, Analysis, and Remedial Measures to Improve Stability of Existing Earth Dams-Corps of Engineers Approach, William F. Marcuson, III and Arley G. Franklin, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p65-78. Seismic Design and Analysis of Embankment Dams

Recent Bureau of Reclamation Experience, John D. Smart and Lawrence Von Thun, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p79-95.

Dams, gravity

Boundary Element Analysis of Fluid Domain, Youssef G. Hanna and Jagmohan L. Humar, EM April 82,

Earthquake Response of Dams with Wave Absorbing Reservoir Bottom, Gregory Fenves and Anil K. Chopra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p287-290.

Finite Element Analysis of Reservoir Vibration, Jag-

mohan Humar and Magdy Roufaiel, EM Feb. 83,

Hydrodynamic Pressure on Short-Length Gravity Dams, Ahmed A. Rashed and Wilfred D. Iwan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1162-1165.

Measurements of Self-Aerated Flow on a Spillway, Paul

R. Cain and Ian R. Wood, HY Nov. 81, p1425-1444.
Stability of Concrete Dam: Case History, William W.
Stelle, Dennis I. Rubin and H. Joseph Buhac, EY

Sept. 83, p165-180.

Three-Dimensional Stress Analysis of Dams Founded on Faulted Rocks, D. K. Sehgal, R. Natarajan and S. M. A. Kazimi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p37-49.

Dams, movable Holland's Fight Against the Sea, Alexander Danilevsky, CE April 83, p50-53.

Dams, rockfill

Design of Filters for Clay Cores of Dams, Peter H. Vaughan and Hermusia F. Soares, GT Jan. 82, p17-31.

Erosion in Relation to Filter Design Criteria in Earth Dams, K. Arulanandan and Edward B. Perry, GT May 83, p682-698.

Data acquisition Revised Technique of Photographic Data Acquisition Deane M. Manbeck and Gary Sherman, IR Dec. 83, p437-439.

Data analysis

Construction Evaluation and Management Using

DBMS, Alan Stewart Nanco, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p337-350.

Instrument Monitoring to Observe Dam Performance, R. J. Huang and M. F. Rogers, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p50-61. Available Data? Vernon K. Hagen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p505-512.

Data collection

The Alaska Coastal Data Collection Program, Orson P. Smith, David L. Kriebel and James T. Bales, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1153-1167.

Civil Engineering Planning Guide: Part I-Framework for Planning, Task Committee to Prepare a Planning Guide of the Urban Planning and Development Division, (Richard S. Howe, chmn.), UP May 82, p34-69.

Hydrology at the Frontier-Estimating and Using Inadequate Data, K. Jawed and R. E. Aten, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed.,

1983), p513.

Information to Support Highway Safety Decisions, Patricia F. Waller, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p162-169.

Instrument Monitoring to Observe Dam Performance, R. J. Huang and M. F. Rogers, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p50-61.

Mixed-Station Extension of Monthly Streamflow Records, William M. Alley and Alan W. Burns, HY Oct.

83, p1272-1284. Should Analytical Procedures Equal Available Data?

Vernon K. Hagen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p505-512.

Three-Dimensional Model of Bering and Chukchi Sea, Shiao-Kung Liu and Jan J. Leendertse, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p598-616.

Data collection system

Analysis of the USGS Stream-Gaging Program, M. E. Analysis of the USOS Stream-Gaging Program, Mr. E. Moss and W. O. Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p520-527. Construction Evaluation and Management Using DBMS, Alan Stewart Nanco, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p337-350.

Data Automation for Water Supply Management,
Robert J. Sutter, Ronald D. Carlson and Dan Lute,

WR July 83, p237-252.

Data processing

Interactive Nonstructural Flood-Control Planning.

David T. Ford, WR Oct. 81, p351-363.

Microcomputer Spreadsheet Applications, Lansford C.

Bell and Bob G. McCullouch, CO June 83, p214-223.

Data systems

Automated Weather Data Network for Agriculture, Kenneth G. Hubbard, Norman J. Rosenberg and David C. Nielsen, WR July 83, p213-222.

Shearing Stress due to Prestress in Variable Depth Beam, Shih Toh Chang, ST July 82, p1648-1653. Statistical Analysis of Timber Bridges, Baidar Bakht, ST Aug. 83, p1761-1779.

On Frontier between Rheology and Mudflow Mechanics, Cheng-lung Chen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p113-118.

Decision making

Association between Personal and Professional Values Richard H. McCuen and Michael S. Pritchard, El Jan. 83, p1-9.

Construction Risk: Multivariate Approach, C. William Ibbs, Jr. and Keith C. Crandall, CO June 82, p187-200.

Critical Decision Making During Construction, David

B. Ashley, Kazuyoshi Uehara and Burke E. Robinson, CO June 83, p146-162.

Fuzzy Sets and Structural Engineering, Colin B. Brown and James T. P. Yao, ST May 83, p1211-1225.

Management Control System San Diego Water Utilimanagement Control System San Diego Water Utti-ties, Richard W. King. (Improving Productivity, J. R. King Jr., ed., 1983), p89-98. Methods Used to Evaluate Highway Improvements, James M. Witkowski, TE Nov. 83, p769-784. Multiobjective Approaches to River Basin Planning,

Mark Gershon and Lucien Duckstein, WR Jan. 83,

p13-28.
Who Says Science Can't Influence Decision Making?

Who Says Science Can't Influence Decision Making?

Who Says Science Can't Influence Decision Making? Eric D. Metz and Joy B. Zedler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p584-600.

Decomposition

Anaerobic Digestion of Municipal Solid Waste, Michael K. Stenstrom, Adam S. Ng, Prasanta K. Bhunia and Seth D. Abramson, EE Oct. 83, p1148-1158. Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-

Deep foundations

Seismic Response of Cooling Towers on Interactive Shallow or Deep Foundations, Bor-Jen Lee and Phillip L. Gould, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p247-250.

Deep water
Deep Water Soil Investigation: Planning to Results,
Tor-Inge Tjelta, Peter H. Watt and Derek W. F.
Senner, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p166-180.

Modelling Sediment Transport in a Deep Ocean Environment, Stephen R. McLean, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p120.

Scour Behind Circular Cylinders in Deep Water, Jorg Imberger, Des Alach and John Schepis, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1522-1554.

Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143.

Deflection

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038.
Beams with Torsional Stiffeners, Richard M. Szewczak, Erling A. Smith and John T. DeWolf, ST July 83, p1635-1647.

Finite Element Analysis of Jointed Concrete Pavements, Yang H. Huang and Xue-Jun Deng, TE Sept.

Finite Element Solutions of Deep Beams, Mohammed M. Ettouney and Walter Schmidt, ST July 83, p1569-1584.

Junnings, ST Jan. 83, p16-36.

Jennings, ST Jan. 83, p16-36.

Lange Deflection and Stability of Rigid Frames, Riyad K. Qashu and Donald A. DaDeppo, EM June 83, p765-780.

Large Deflection of Curved Beam with Shear Deformation, Izhak Sheinman, EM Aug. 82, p636-647.

Large Deflections of Nonlinear Elastic Beams under Uniformly Distributed Loads, Frank Monasa and Gilbert Lewis, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p455-458. Lateral Response of Fixed-Head Pile, Prabhakar J. Pise,

GT Aug. 83, p1126-1131. Loading Mode Effects on Pavement Deflections, Mario S. Hoffman, TE Sept. 83, p651-668.

Multiple Mode Nonlinear Analysis of Circular Plates, Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123. Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83,

p1918-1932.

Statistical Study on Compression Flange Plates, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, p404-417

Deformation

Acoustic Emission and Birefringence Behavior of Epoxies, H. Thomas Hahn and K. Hollmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p487-490. Analytical Models for Steel Connections, R. M.

natylical Models for Steel Connections, R. M. Richard, D. A. Rabern, D. E. Hormby and G. C. Williams, (Proceedings of the W. H. Murse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds.,

1983), p128-155.

Behavior and Design of Reinforced and Composite Concrete Structures, Soliman I. Al-Noury and Wai F.

Chen, ST June 82, p1266-1284.

Distribution of Deformations, Hasan A. Hejazi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983), p467-470.

Dynamic Computional Analysis of Openings In Jointed Rock, C. H. Dowding, T. B. Belytschko and H. J. Yen, GT Dec. 83, p1551-1566.

External Pressure and Sectional Behavior of Fabricated

Tubes, Shouji Toma, Wai F. Chen and Lyle D. Finn, ST Jan. 82, p177-194.

The Finite Element Elastic Beam-Column, Joao A. Teixeira de Freitas and David Lloyd Smith, EM Oct.

Force-Displacement Behavior of Concrete Bridge, George E. Ramey, ST Nov. 83, p2600-2618.

Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83, page 1828-1828. p1918-1932.

Reliability of Parallel Systems under Imposed Uniform Strain, M. Hohenbichler and R. Rackwitz, EM June 83, p896-907.

Soil-Pipe Interaction and Pipeline Design, Syed Ahmed, Ralph W. McMickle and Carl L. Brassow, TE Jan.

81, p45-58. Straightening of Inelastically Deformed Bars, Furman W. Barton and Richard T. Eppink, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p722-725.

Stresses Due to Wave-Induced Bottom Pressures, Leland M. Kraft, Jr. and Steven C. Helfrich, GT July 83, p986-994.

Tertiary Creep Model for Frozen Sands, John M. Ting, GT July 83, p932-945. Time-Dependent Analysis of PC Cable-Stayed Bridges, M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83,

p1980-1996 Ultimate Strength Analysis of Curved I-Beams, Hiroshi Yoshida and Kouji Maegawa, EM Feb. 83, p192-214.

Deformation analysis

Contact-Slip Analysis Using Mixed Displacements, Robert B. Haber and John F. Abel, EM Apr. 83,

Deformation of Cracked Net-Reinforced Concrete Walls, Zdenek P. Bazant and Byung H. Oh, ST Jan.

83, p93-108.

Large Deformation Analysis of Elastic-Plastic Frames,
Aslam Kassimali, ST Aug. 83, p1869-1886.

Deformation forces

Identification of Force-Deformation Relations, Allan C. Chu and Sassan Toussi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p307-310.

Degrees of freed

Steady-State and Transient Responses of Linear Structures, Anestis S. Veletsos and Ashok Kumar, EM Oct. 83, p1215-1230.

On Stress Singularities in Laminated Composites, F. Delale, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p491-494.

Delaware basin

Reservoir Management in the Delaware River Basin, Gerald M. Hansler and Robert L. Goodell, (Accom-plishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p180-190.

Time Impact Analysis-Forensic Scheduling, David M. Lee, (Liability in Construction Management, David M. Lee, ed., 1983), p43-55.

Delivery
Night Delivery: Institutional Restraints, Errol C. Noel,
UP May 83, p44-49.

Atchafalayai Management: Opportunities and Prob-lems, Charles Fryling-IJr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2269-2278. Effect of Gradients on Acoustic Velocity Meter, Henry

T. Falvey, HY Nov. 83, p1441-1453.
Estimating Failure Probabilities for California Levees, James M. Duncan and William N. Houston, GT Feb. 83, p260-268.

Investigations on Atchafalaya Bay Sediments, Allen M. Teeter, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p85-90.

Planning Projects: A Formula for Control, William L. Metzger, (Improving Productivity, J. R. King Jr., ed., 1983), p4-10.

Demographic projections
Predicting Future Water Demand, Robert M. Clark,
James A. Goodrich and James I. Gillean, EE Dec. 82, p1248-1264.

Demolition

Fracturing of Rock with Expansive Cement, Charles H. Dowding and Joseph F. Labuz, GT Oct. 82, p1288-

Dendrochronology

Channel Migration and Incision on the Beatton River, Gerald C. Nanson and Edward J. Hickin, HY March 83, p327-337.

Denitrification

Nitrogen Removal in Single-Stage Activated Sludge, Hraj A. Khararjian, Iqbal Ali and M. K. Abdulappa, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983, p.230-237.
Nitrogen Removal in the Overland Flow Process
—Design Considerations, A. P. Kruzic, R. G. Smith
and E. D. Schroeder, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p50-57.

Simulation of Single-Sludge Nitrogen Removal, Bill Batchelor, EE Feb. 83, pl-16.

Endochronic Description of Sand Response to Static Loading, Han C. Wu and T. P. Wang, EM Aug. 83,

Impact Stresses During Dynamic Compaction, Paul W. Mayne and Jones S. Jones, Jr., GT Oct. 83, p1342-1346.

Density stratification
Vertical Circulation in Density-Stratified Reservoir,
Zygmunt Meyer, HY July 82, p853-873.

Two-Dimensional Model of Mud Transport, Peter Cole and Gordon V. Miles, HY Jan. 83, p1-12.

Deregulation

Policy Analysis Implications of Four Cogent Transportation Topics, Yupo Chan, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p32-53.

Desiccation

Geotechnical Characterization of Desiccated Clay, Larry J. Mahar and Michael W. O'Neill, GT Jan. 83,

Design

Activated Sludge: A Comparison of Oxygen and Air

Systems, Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division

agement of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chmn.), 1983, 112pp.
Application of Reliability Methods in Design and Analysis of Offshore Platforms, Committee on Reliability of Offshore Structures of the Committee on Structural Safety and Reliability of the Structural

Division, ST Oct. 83, p2265-2291.

Artificial Intelligence in Simple Beam Design, Martin
F. Rooney and Steven E. Smith, ST Oct. 82,

p2344-2348.

Australian Coal Terminal Operates Happily Beside Residential Area, Gary Goldstein, CE Dec. 83, p34-37 Can We Become More Creative? Sam Bonasso, CE Jan.

83, p70-72

Container Terminal at Port of Madras - A Case Study. V. Tapasvi, (Proceedings of Ports 83,/n Kong Wong, ed, 1983), pl14-128.
Corrosion of Steel Sheet Piles in Port Structures, Valery

Buslov, WW Aug. 83, p273-295.

Design Charts for Rock Slopes Susceptible to Toppling, Caner Zanbak, GT Aug. 83, p1039-1062. Design of Mound Breakwaters, Per Bruun and Sverre Kjelstrup, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p122-139.

Design of Rigid Shafts in Clay for Lateral Load, Harry
M. Coyle and Mark W. Bierschwale, GT Sept. 83, p1147-1164

Design of Underground Protective Structures, Felix S. Wong and Paul Weidlinger, ST Aug. 83, p1972-1979. Woing and raut wettinger, 31 Aug. 35, p1912/1972. Design of Yard Entrance Improvements: Port of Oakland, John F. Aidoo, Jefferson M. Hilliard, Richard A. Woodman and Gary La Bonte, (Pro-ceedings of Ports 83, Kong Wong, ed., 1983), p241-253

Effect of Tuned-Mass Dampers on Seismic Response, John R. Sladek and Richard E. Klingner, ST Aug. 83,

p2004-2009.

Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, Barney sign and Construction industry, 1960 to 2000, Dailey P. Popkin and Carl L. Brassow, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al., eds., 1983), p32-35. The Fabricator/Designer Connection, J. C. Holesapple,

CE Nov. 82, p64-68.

Factors of Safety for the Design of Breakwaters, J. D. Mettam and J. G. Berry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), 2097-2106.
Flanged Reinforced Concrete Flexural Members, S. Somayaji and R. B. Patel, CE Dec. 83, p50-53.
Magnel Diagrams for Prestressed Concrete Beams,

Natarajan Krishnamurthy, ST Dec. 83, p2761-2769. Medium Head Hydro Power House Concrete Volumes,

James L. Gordon, EY Dec. 81, p237-254. Minority Firm Gains Major Design Work on LA

Subway, CE Sept. 83, p20.

Multiple Mode Nonlinear Analysis of Circular Plates Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123. N-725 Guideline for Design and Analysis of Nuclear

Safety Related Earth Structures, American Society of

Civil Engineers, 1983, 23pp.
New Design Equations for Scour Around Bridge Piers, Christopher James Baker, HY April 81, p507-511.
New Tunnel Design Cuts Project Cost by 40%, CE Nov.

83, p15-16. Probabilistic Design of Dunes, Jan van de Graaff, (Coastal Structures '83, J. R. Weggel, ed., 1983), p820-831.

The Quiet Revolution in Skyscraper Design, Eugene E. Dallair, CE June 83, p54-59.
Reliability Based Design for Space Steel Frames,

Yin-Yu Chen and Deh-Shiu Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p847-850.

Reliability Based Design of Cable Elements, Soronadi Nnaji, (Recent Advances in Engineering Mechanics and

Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p843-846.
Segmental Post-Tensioned Dolphin at Tagrin Point,
Samir G. Mattar, CO Sept. 83, p276-285.

Simple Measurement Techniques for Area Wind Loads, David Surry, Theodore Stathopoulos and Alan G. Davenport, EM Aug. 83, p1058-1071. Skyscraper Design (ltr.), Morton H. Eligator, CE Dec. 83, p22.

B. Rutledge and Luke M. Snell, ST Jan. 83, p143-153. Autostress Design of Steel Bridges, Geerhard Haaijer, Phillip S. Carskaddan and Michael A. Grubb, ST Jan. 83, p188-199.

Code Comparisons of Factor Design for Wood, James R. Goodman, Zsolt Kovacs and Jozsef Bodig, ST Aug. 81, p1511-1527.

Cost Control During the Design Phase, Warren Dean, (Current Practice in Cost Estimating and Cost Control,

Victor F. Spruill, et al, eds., 1983), p68-84.

Design and Construction of Hadera Offshore Coal
Unloading Terminal, S. L. Yaron, J. Shimoni, C. Tzachar and D. Zwemmer, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1786-1799.

Design Features and Construction Techniques for Ocean Outfall Scarborough, Maine, Richard A. Jubinville and Robert D. Arsenault, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p552-562.

esign of Modal Control of Structures, Oren Vilnay,

Design of Modal Control of Structures, Oren Vinnay, EM Oct. 81, p907-915.

Determining Dynamic Eccentricity: A Simple Ap-proach, S. T. Wu and E. V. Leyendecker, (Recut Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p130-133.

Dynamic and Static Design Considerations for Underground Chambers, Alfred J. Hendron, Jr. and Gabriel Fernandez, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p157-197.

Esthetic Development of California's Bridges, Arthur L.

Elliot, ST Sept. 83, p2159-2174.
Finite Element Techniques for Pipelines Subjected to Extreme Loads, Dennis Row, Grawam H. Powell and

Mary W. Goodson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p474-485.
Floating Breakwater Prototype Test Program, Eric Nelson, Derald Christensen and A. David Schuldt, (Coastal Structures '83, J. R. Weggel, ed., 1983),

p433-446.

A General Purpose Interactive Design Postprocessor, Stacey E. Soper and Leonard M. Rand, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p287-297.

Intermountain Power Project Seismic Criteria, Robert P. McBean, Luis E. Escalante and Arthur W. Shively,

TC Apr. 83, p73-87.

Modernization and Upgrading of Port and Marine Facilities, E. Sorrell Lanier, (Proceedings of Ports 83,

Kong Wong ed., 1983), p364-372.
Nitrogen Removal in the Overland Flow Process
—Design Considerations, A. P. Kruzic, R. G. Smith
and E. D. Schroeder, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p50-57.

Ocean Outfall Design Treated Wastewater Discharges, Peter W. Failla, Charles M. Norkis, Francis Pandullo and Philip F. Healy, (Pipelines in Adverse Environ-

ments II, Mark Pickell, ed., 1983), p563-572.

Optimization of Antenna Structure Design, Roy Levy, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p114-129

Optimum Design of Prestressed Concrete Tension Members, Antoine E. Naaman, ST Aug. 82, p1722-

Probabilistic Study on Failure of Large Dams, Luis Valadares Tavares and Joaquim Laginha Serafim, GT Nov. 83, p1483-1486.

The Role of Marine Fenders for Repairing, Upgrading, and/or Rehabilitating Existing Facilities, Khoji Asayama and Toshitaka Ohtsuka, (Proceedings of Ports 83, Kong Wong, ed., 1983), p543-554. Rotating Biological Contactor System Design, Yeun C. Wu and Ed D. Smith, EE June 82, p578-588.

Seismic Design and Analysis of Embankment Dams Recent Bureau of Reclamation Experience, John D. Smart and Lawrence Von Thun, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p79-95.

Zeebrugge's Main Breakwaters, L. V. Van Damme, (Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1745-1764.

Design events
Confidence Intervals for Design Events, Jery R.
Stedinger, HY Jan. 83, pl3-27.
Realistic Assessment of Maximum Flood Potentials,
Donald W. Newton, HY June 83, p905-918.
Seismic Design of Embankments and Caverns, Terry R.

Howard, ed., 1983, 201pp.

Some Considerations in the Selection of Design Earthquakes for Critical Structures, Dean Ostenaa and Louis R. Frei, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p1-9.

Design improvements

Innovative Designs for Navy Piers, Philip Chow and Harvey Haynes, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p442-455.

Design modifications

In-Service Evaluation of Roadside Hardware, Donald L. Woods, (The Role of the Civil Engineer in Highway Safety, MMartin E. Lipinski, ed., 1983), p82-91.

Design standards

Are basic Engineering Assumptions About the Driver Valid?a600ver, Hugh W. McGee and Kevin G. Hooper, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p45-53.
Load Capacity of Row of Shear Plate Connectors, Marie-Anne Erki and Mark W. Huggins, ST Dec. 83, 2220-200.

p2786-2801.

Probability of Failure from Abnormal Load, Bruce Ellingwood, E. V. Leyendecker and James T. P. Yao, ST Apr. 83, p875-890. Recommended Design Loads for Bridges, Committee

on Loads and Forces on Bridges of the Committee on Bridges of the Structural Division, ST July 81, p1161-1213.

Safety Checking Formats for Limit States Design, Bruce Ellingwood, ST July 82, p1481-1493.

Annotated Bibliography on Urban Design Storms, Urban Water Resources Research Council of the American Society of Civil Engineers, 1983, 41pp. Design of Dunes as Coastal Protection in the Delta Area of the Netherlands, Ir. C. Visser, (Coastal Structures '83, J. R Weggel, ed., 1983), p792-805.

Design Rainfall Patterns for the State of Wyoming,

Patrick T. Tyrrell, (Advances in Irrigation Drainage, John Borrelli, ed., 1983), p494-502.

Deterministic and Probabilistic Perspectives of the PMF, Anand Prakash, (Frontiers in Hydraulic Engi-

root, Alante Takash, (ronters in Padatate Engineering, Hung Tao Shen, ed., 1983), p535-540.

West Breakwater-Sines Wave Climatology, Arthur E.
Mynett, Willem J. P. de Voogt and Edward J.
Schmeltz, (Coastal Structures '33, J. R. Weggel, ed., 1983), p17-30.

Design waves

Coastal and Ocean Management (H-6), John S. Hale, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p2387-2401.
Design of Mound Breakwaters, Per Bruun and Sverre Kjelstrup, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p122-139.
Factors of Safety for the Design of Breakwaters, J. D. Mettam and J. G. Berry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2097-2106.
Stability Analysis for a Rubble-Mound Foundation

through Irregular Wave Test, Masato Yamamoto and

Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143.

Design wind speed Estimates of Design Wind from Short Records, Mircea Grigoriu, ST May 82, p1034-1048. Short-Term Records and Extreme Wind Speeds, Emil

Simiu, James J. Filliben and James R. Shaver, ST Nov. 82, p2571-2577.

Desorption

Desorption Kinetics in Modeling of Toxic Chemicals, Peter R. Jaffe and Raymond A. Ferrara, EE Aug. 83, p859-867

Modeling Leachates at Landfill Boundaries, Haydar Erdogan and Ronald D. Neufeld, EE Oct. 83, p1181-1194.

Desulfurization

Air Pollution Cleaning Wastes: Dry vs. Wet, Richard W. Goodwin, EY Sept. 83, p131-141. Economic Dispatch for Flue Gas Desulfurization, Ronnie Leung-nee Tong and John D. Keenan, EY March 83, p17-34.

Space and Schedule Considerations for Backfitting SO₂ Removal Systems, Wayne A. Rauch, EY Sept. 83,

Detention basins

Comparison of Basin Performance Modeling Technique, Gary F. Goforth, James P. Heaney and Wayne C. Huber, EE Oct. 83, p1082-1098

Proceedings of the Conference on Stormwater Detention Facilities, William DeGroot, ed., 1982, 431pp. Stormwater Quality Characteristics in Detention Basins, Raymond A. Ferrara and Patrick Witkowski, EE Apr. 83, p428-447.

Apr. 83, p4/26-447.
Water Quality and Institutional Considerations of Stormwater Detention Ponds in Estuarine Environments, Jonathan E. Jones, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1950-1981.

Detention reservoirs

Automatic Control Strategies for Combined Sewer Systems, Markos Papageorgiou, EE Dec. 83, p1385-

Structural Evaluation of Marine Structures, Jerry J. Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677.

Developing countries
Estimating Construction Costs in Developing Countries, Craig L. Fries, (Current Practice in Cost) Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p95-104.

The Evolution and Implementation of Legislation for The Evolution and imprementation of Legislation for Coastal Zone Management in a Developing Country
—The Sri Lankan Experience, S. R. Amarasinghe and H. J. M. Wickremeratne, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2822-2841.

Habiganj-Ashuganj Pipeline Project—An Insignia of Appropriate Pipeline Technology for Bangladesh and Change Teast Dalawar Rakhi (Pinelines in Adverse

the Near East, Delawar Bakht, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p16-24. In Third World Villages, a Simple Handpump Saves Lives, Allen Morrison, CE Oct. 83, p68-72.

Iran's Mode of Modernization: Greening the Desert, Deserting the Greenery, H. Pazwash, CE Apr. 83,

p48-51. The Potential for Small-Scale Hydro in Developing Countries, Jack J. Fritz, CE Dec. 83, p46-49. Segmental Post-Tensioned Dolphin at Tagrin Point, Samir G. Mattar, CO Sept. 83, p276-285.

Development

Science and the Designation Process under Federal

Science and the Designation Process under Federal Coastal Barrier Legislation, Thomas F. McKinney and John C. Kraft, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p697-707.

Streamlining the Environmental Review Process for Projects in the Coastal Zone, Eric R. Sakowicz and Gregory W. Mohr, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2552-2570.

Variations in Planning Concepts for a Nigerian Port, David H. Killoy, Klaus A. Schoellner and Peter W.

Ediale, (Proceedings of Ports 83, Kong Wong, ed., 1983), p84-96.

Dewatering

Artesian Pressure Relief for Trident Drydock, Edward B. Kinner and Wesley E. Stimpson, CO March 83, p74-88.

formance, R. Srinivasaraghavan, Thomas J. Sullivan and Carl W. Reh, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p715-723. Effect of Feed Characteristics on Filter Press Per-

Filter Press Dewatering of High Alum Water Treatment Plant Sludge, Olivia L. Chen, Douglas G. Chun, David K. Gill and Darryl E. Wong, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p110-117.

Sludge Conditioning and Particle Size Distribution, Paul T. Bowen and Thomas M. Keinath, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p391-398.

Origin and Properties of Glacial Till and Diamictons, A. J. Lutenegger, T. J. Kemmis and G. R. Hallberg, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p310-331.

Diaphragm wall Bibliography on Lumber and Wood Panel Diaphragms, John Peterson, ST Dec. 83, p2838-2852.

Diaphragms, mechanics

Parameters Influencing Behavior of Diaphragms, Rafik Y. Itani, Girish S. Hiremath and Robert J. Hoyle, Jr., ST Feb. 83, p369-385.

Diesel engines

Assessment of NO, Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, Rob Klausmeier, Jim Rouge, Pamela Beekley and James Norton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1208-1227.

Differential settlement

Criteria for Settlement of Tanks, W. Allen Marr, Jose A. Ramos and T. William Lambe, GT Aug. 82, p1017-1039.

Differential settlements

Tolerable Settlement of Buildings, Harvey E. Wahls, GT Nov. 81, p1489-1504.

Biological Fouling of Fine Bubble Diffusers: State-of-Art, William C. Boyle and David T. Redmon, EE Oct. 83, p991-1005.

Dilution of a Dense Vertical Jet, Wesley P. James Ignacio Vergara and Ken Kim, EE Dec. 83, p1273-

Diffusion

An Adaptive FEM for Convection-Diffusion Problems, W. G. Szymczak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p814-817. Chemical Profiles in Soft Clays and the Role of Long-Term Diffusion, Robert M. Quigley and Mong-Term Contact Conference on Civil Scale Scale Contact Conta

Valerie E. Crooks, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p5-18.
William J. Snodgrass, EE Dec. 83, p1419-1423.
Unified Theory for Flood and Pollution Routing,

Antonis D. Koussis, HY Dec. 83, p1652-1664.

Diffusivity-Based Flux of Phosphorus in Onondaga Lake, Martin C. Wodka, Steven W. Effler, Charles T. Driscoll, Stephen D. Field and Steven P. Devan, EE Dec. 83, p1403-1415

Vertical Mixing in Models of Stratified Flow, Steve C. McCutcheon, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p15-20.

Geotechnical Engineering, Design and Construction, Port of Oakland, Mahmut Otus, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p129-140.

Variation of Foreshore Due to Detached Breakwaters, Osamu Toyoshima, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1873-1892.
Wave Run-Up at Sea Dikes under Oblique Wave Approach, E. Tautenhain, S. Kohlhase and H. W.

Partenscky, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p804-810.

Evaluation of Selected Initial Dilution Models, Abu M. Z. Alam, Donald R. F. Harleman and Joseph M. Colonell, EE Feb. 82, p159-186.

Wastewater Field Thickness and Initial Dilution, Robert C. Y. Koh, HY Sept. 83, p1232-1240.

ensional analysis

Bed Load Discharge Coefficient, Peter Engel and Y. Lam Lau, HY Nov. 81, p1445-1454. Development of Solutions for Level-Basin Design,

Albert J. Clemmens, Theodor Strelkoff and Allen R. Dedrick, IR Sept. 81, p265-279. Flow Depth in Sand-Bed Channels, William R. Brown-

ie, HY July 83, p959-990.

Length of Flow Separation over Dunes, Peter Engel, HY Oct. 81, p1133-1145.

US Offers to Buy Dioxin-Contaminated Town, CE April 83, p10.

Disaster relief

Hurricane Preparedness Planning Federal Assistance to State and Local Governments, Eugene P. Zeizel, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2037-2044.

Discharge coefficients
Approach-Flow Effects on Downpull of Gates, Nguyen
D. Thang and Edward Naudascher, HY Nov. 83, p1521-1539.

Bed Load Discharge Coefficient, Peter Engel and Y. Lam Lau, HY Nov. 81, p1445-1454.

The V-Shaped Broad-Crested Weir, Wubbo Boiten and Remmet H. Pitlo, IR June 82, p142-160.

Finite Element Method for Interface Problems, Santosh K. Arya and Gilbert A. Hegemier, ST Feb. 82, p327-342.

In Third World Villages, a Simple Handpump Saves Lives, Allen Morrison, CE Oct. 83, p68-72. Rapid Sand Filtration of Giardia Cysts, Mohammed

Al-Ani and David W. Hendricks, (National Confer-ence on Environmental Engineering, Allen Medine, et al, eds., 1983), p411-418.

Disinfection with Chlorine and Chlorine Dioxide, E. Marco Aieta and Paul V. Roberts, EE Aug. 83, p783-799.

Disinfection

Active Chlorine Distribution in Secondary Effluents, Russell A. Isaac and J. Carrell Morris, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p593-599

Disinfection with Chlorine and Chlorine Dioxide, E. Marco Aieta and Paul V. Roberts, EE Aug. 83, p783-799.

The Incidence, Monitoring, and Treatment of Viruses in Water Supply Systems, Task Committee on Viruses in Drinking Water of the Committee on Water Supply and Resources Management of the Environmental Engineering Division, 1983, 85pp. Microbial Dynamics in GAC Filtration of Potable

Water, Charles N. Haas, Michael A. Meyer and Marc

S. Paller, EE Aug. 83, p956-961.

Advection and Dispersion in an Experimental Ground-water Plume, David L. Freyberg, Douglas M. Mackay and John A. Cherry, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p36-41.
Attenuation of Ground-Water Contaminant Pulses,
Albert J. Valocchi and Paul V. Roberts, HY Dec. 83,

p1665-1682.

Cells-In-Series Simulation of Riverine Transport, Heinz G. Stefan and Alexander C. Demetracopoulos, HY June 81, p675-697.

Dispersion in Mountainous Natural Stream, Hasa Bajraktarevic-Dobran, EE June 82, p502-514.

Dispersion in Tumbling Flow, S. Beltaos, HY April 82,

p591-612

p591-012.

Effects of Dredging on Adjacent Waters, Charles Grimwood, EE Feb. 83, p47-65.
Field Calibration of Stream-Tube Dispersion Model, Forrest M. Holly, Jr. and Georges Nerat, HY Nov.

Field-Scale Dispersion in Aquifers, Lynn W. Gelhar, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

(Promiers in Ayaratic Engineering, Fluing 1 ao Shen, ed., 1983), p35.

Lissimine FF Fluorescent Dye, Dennis E. Ford and Kent W. Thornton, EE Aug. 83, p952-955.

Longitudinal Dispersion in Natural Streams, Tom Beer and Peter C. Young, EE Oct. 83, p1049-1067.

Pollution Routing in Streams, Antonis D. Koussis, Melio A Saenz and Ioannis G. Tollis, HY Dec. 83, p1636-1651.

Two-Dimensional Dispersion from Strip Sources, Vedat

Batu, HY June 83, p827-841.
Unified Theory for Flood and Pollution Routing,
Antonis D. Koussis, HY Dec. 83, p1652-1664.

Displacement

Contact-Slip Analysis Using Mixed Displacements, Robert B. Haber and John F. Abel, EM Apr. 83, p411-429

Finite Element Model to Determine K, Kuo-Kuang Hu, Chen-Ming J. Huang and Stuart E. Swartz, EM Aug. 83, p1103-1113.

Force-Displacement Behavior of Concrete Bridge,

George E. Ramey, ST Nov. 83, p2600-2618.

Response Analysis of Offshore Structures, Kapil C. Barik and Velu Paramasivam, WW Nov. 83, p363-379.

Seismic Displacement Analysis of Earth Dams, Sarada K. Sarma, GT Dec. 81, p1735-1739.

The Generalized Variational Principles in Theory of Creep, Ruifeng Wu and Xiaofeng Xi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p742-745.

Smooth Indentation of Finite Layer, Leon M. Keer and Gregory R. Miller, EM June 83, p706-717.

Trench Excavation Effects on Adjacent Buried Pipes: Finite Element Study, Provakar Nath, GT Nov. 83, p1399-1415.

Dissolved organic carbon

Activated Carbon: Sorption of DOC from Wastewater, Frederick S. Cannon and Paul V. Roberts, EE Aug. 82, p766-783.

Dissolved oxygen Lox Dissolved Oxygen Mitigation System for Hydro Marsh. D. Steven Graham and Project, S. Gordon Marsh, D. Steven Graham and Sally C. Simone, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p398-405.

Model of Mississippi River Pool: Dissolved Oxygen,
Alexander C. Demetracopoulos and Heinz G. Stefan,

EE Oct. 83, p1020-1034. Most Rapid BOD Assimilation in Ganga and Yamuna Rivers, D. S. Bhargava, EE Feb. 83, p174-178. Onodaga Lake and Dissolved Oxygen in Seneca River, Steven W. Effler, Peter Jaran and Charles F. Carter,

EE Aug. 83, p945-951.
Oxidative and Non Oxidative Ammonia Modeling,
Michael D. Curtis, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p493-499.
Oxygen Modeling in Tailwaters of Hydro Projects, Gary E. Hauser and Lisa M. Beard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p392-397.

Reservoir Circulation Patterns and Water Quality, Byung R. Kim, John M. Higgins and David J. Bruggink, EE Dec. 83, p1284-1294.

Revaluation of Oxygen Regimes in Fontana Reservoir, William J. Snodgrass, EE Dec. 83, p1424-1429. Water Quality Modeling of Shallow Surface Active Streams—A Case Study, Arun K. Deb, Jerry Klafter-Snyder, William G. Richards and Roy F. Weston, (National Conference on Environmental Environmental Environmental Legislation and Alley Medicine et al. 40(2) 20(2) 49(6) 402. gineering, Allen Medine, et al, eds., 1983), p486-492.

Lateral Stability of Beams on Seats, Mark A. Bradford and Nicholas S. Trahair, ST Sept. 83, p2212-2215.

Distribution patterns
Development of Solutions for Level-Basin Design,
Albert J. Clemmens, Theodor Strelkoff and Allen R. Dedrick, IR Sept. 81, p265-279.

Ditch Flow Program, Michael B. Bruce, CE June 83, p60-61.

Docks

Crib Wharf Cargo Dock Over Sunken Tube Tunnel, J. Kenneth Jarboe, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p717-729.

Design Principles for Petroleum Pier Fire Safety, C. R.

Willner and W. G. Yeich, (Proceedings of Ports 83, Kong Wong, ed., 1983), p22-29. Dock Renovation in Corpus Christi-Aspects of Fend-ering, James A. Shiner and William F. Goldston, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Expansion of Natchez-Adams County Port, C. Carter Brown, C. Dale Buckner and Charles Costner, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309. Marine Facilities Maximize Efficiency at Coal Ter-

minal, CE Aug. 83, p14.
Wharf Decks - Design Load vs. Cost, Ralph W. Junius, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p570-583.

Documentation The EPA SWMM Model: Documentation and Maintenance, Wayne C. Huber, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p312-317.

Liability in Construction Management, David M. Lee,

ed., 1983, 83pp Measurement of Hydrographic Parameters in Large Sand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, 1983, 81pp.

Model Documentation Designed for Users, Charles R. Bristol, Raymond L. Humphries and James L. Higgins, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p306-311.

Software Documentation and Support: HEC Experience, Arlen D. Feldman, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p318-323. Upgrading Written Communication: Your Firm's and Your Own, Gary D. Bates, El Jan. 83, p26-38. The Use of Project Records for Litigation, Edward R. Fisk, (Liability in Construction Management, David M. Lee, ed., 1983), p68-72.
Who Owns the Contract Documents, Michael Loulakis,

CE Nov. 83, p40.

Dolphins, structures
Segmental Post-Tensioned Dolphin at Tagrin Point,
Samir G. Mattar, CO Sept. 83, p276-285.

Delaminated Prestressed Concrete Dome: Investigation and Repair, Frederick L. Moreadith and Richard E. Pages, ST May 83, p1235-1249.

Monolithic Covers for Water Storage Reservoirs, Lorin

Monolithic Covers for water storage Reservoirs, Lorini Pittendreigh, CE July 83, pl4. Optimization of Structures in Nonlinear Response, Manohar P. Kamat and Layne T. Watson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p679-682.

Doppler systems

New Positioning Power for the Surveyor, Paul D. Rodgers, SU Aug. 83, p90-98.

Douglas fir Load Capacity of Row of Shear Plate Connectors Marie-Anne Erki and Mark W. Huggins, ST Dec. 83, p2786-2801.

Dowel action

Cyclic Shear and Dowel Action Models in R/C, Rafael Jimenez, Richard N. White and Peter Gergely, ST May 82, p1106-1123.

Effects of Currents on Wave Drag and Inertia Loads, Terence S. Hedges, (Coastal Structures '83, J. R. Weggel, ed., 1983), p461-473.

Lift and Drag on Stationary Capsule in Pipline, Henry Liu and Harald R. Graze, HY Jan. 83, p28-47. Mutual Interference Drag on Signs and Luminaires, James F. Marchman, III. and Todd D. Werme, ST

Oct. 82, p2235-2244.

Validity of Stokes-Flow Theory for a Falling Disk, Robert Y. Lai and Yun-Ting Soo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983). p1158-1161.

Drag coefficient

Minimum Energy and Energy Dissipation Rate, Charles C. S. Song and Chin Ted Yang, HY May 82, p690-706.

Tornado-Borne Missile Speed Probabilities, Emil Simiu and Martin R. Cordes, ST Jan. 83, p154-168.

Antecedent Moisture Condition Probabilities, Donald D. Gray, Peter G. Katz, Sharon M. deMonsabert and Neroli P. Cogo, IR June 82, p107-114.

Chemical Reactions within the Root Zone, J. D. Oster and K. K. Tanji, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p399-408.

Ditch Flow Program, Michael B. Bruce, CE June 83,

p60-61. Drain Tube Opening Effects on Drain Inflow, Fawzi S. Mohammad and R. Wayne Skaggs, IR Dec. 83,

p393-404. Drainage by an Intercepting Pump Station, Mostafa M. Soliman, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p337-343. New Role of Drainage Systems in Dam Stability, William W. Stelle, Dennis I. Rubin, H. Joseph Buhac and Paul H. Anderson, EY Sept. 83, p181-191. Proceedings of the Specialty Conference on Advances

in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp. Synthetic Fabrics as Soil Filter: A Review, David J.

Hoare, GT Oct. 82, p1230-1245.

Design Rainfall Patterns for the State of Wyoming, Patrick T. Tyrrell, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p494-502.

Drainage systems

Boston Main Drainage System 100 Years Later, Antoni J. Zelechowski and Cathy C. Greene, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p594-606.

Efficiency, Equity, and Drainage Design, David C.

Colony, El Apr. 83, p85-102.

Principles of Project Formulation for Irrigation and Drainage Projects, George R. Baumli, ed., 1982,

Trident Naval Submarine Base: Planning and Design, John M. Lowe, Jr., UP May 83, p7-20.

Drainage wells

Agricultural Drainage Well Impacts in Iowa, T. Al Austin and James L. Baker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p328-336.

Drain Tube Opening Effects on Drain Inflow, Fawzi S Mohammad and R. Wayne Skaggs, IR Dec. 83, p393-404.

Head Loss at Soil-Drain Envelope Interfaces, David W. Miller and Lyman S. Willardson, IR June 83, p211-220.

Seepage Around Horizontal Drains in Hill Slopes, Edmund C. C. Choi, HY Oct. 83, p1363-1368.

Recovery in Large Diameter Wells, P. Basak, HY Oct. 82, p1194-1207.

Drawings, engineering

Map Content and Symbols: Chapter V of Proposed Manual on Map Uses, Scales, and Accuracies for Engineering and Associated Purposes, Robert P. Jacober, Jr., SU Nov. 80, p41-72.

Dredge spoil Dredged Material Sedimentation Basin Design, Raymond L. Montgomery, Edward L. Thackston and Frank L. Parker, EE Apr. 83, p466-484.

Dredges

Dirt and Steam, W. R. Carter, CE Nov. 83, p51-54.

Chemical Clarification of Dredged Material, Paul R. Schroeder and F. Douglas Shields, Jr., EE Apr. 83,

Deepening Los Angeles Harbor, Daniel Muslin, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p227-233

Dredged Material Sedimentation Basin Design, Raymond L. Montgomery, Edward L. Thackston and Frank L. Parker, EE Apr. 83, p466-484.

Dredging Congress Held in Singapore, CE Sept. 83,

p17.

Dredging to Minimize Wave Penetration into a Harbour, H. P. Riedel and A. P. Byrne, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1514-1521.

The Effects of Deepdraft Ship Channels on Salinity Intrusion in Shallow Bays, George H. Ward, Jr., (Proceedings of Ports 83, Kong Wong, ed., 1983),

p532-542 Effects of Dredging on Adjacent Waters, Charles Grimwood, EE Feb. 83, p47-65.

Environmental Protection Program for the Expansion of the Port of Miami, Florida, Armando I. Perez, Luis Ajamil, Carmen Lunetta, Marilyn Reed and Nancy Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1090-1104.

Hydraulic Considerations in Modernizing Ports, Chester A. Peyronnin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p373-378.

Marine Terminal Modifications Port of Albany, New York, David R. Carchedi and David L. Porter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p584-598.

Navigation & Dredging: Port of New York & New Jersey, Linda O'Leary, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p349-360.

Optimization of Channel Maintenance Expenses, Ana-

toly B. Hochstein, Ronald Guido and Ivan Zaba-loieff, WW Aug. 83, p310-322.

Reconnaissance Dredged Material Testing in Oregon, Pamela Moore, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), p850-863. Sediment Analyses for Urbanizing Watersheds, Gary R. Dyhouse, HY March 82, p399-418.

Sediment Transport, Eugene H. Harlow, (Coastal Zone

'83, Orville T. Magoon, et al, eds., 1983), p2603-2611. Study of Ship's Track and Motions at Port Taranaki, G.

Greenstreet, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2763-2772.

Driver behavior

Are basic Engineering Assumptions About the Driver Valid?a600ver, Hugh W. McGee and Kevin G. Hooper, (The Role of the Civil Engineer in Highway

Safety, Martin E. Lipinski, ed., 1983), p45-53.
The Responsibility of the Civil Engineer to the Drinking Driver, Hall, Thomas A. (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p113-120.

Droughts

Drought Analysis and Soil Moisture Prediction, Graeme M. Smart, IR June 83, p251-261.

Drydocks

Artesian Pressure Relief for Trident Drydock, Edward B. Kinner and Wesley E. Stimpson, CO March 83,

Cellular Cofferdam for Trident Drydock: Performance, Max D. Sorota, Edward B. Kinner and Mark X.

Haley, GT Dec. 81, p1657-1676. Historical Account of the Construction and Maintenance of Drydock No. 1 Long Beach Naval Shipyard, Long Beach, California, Ross A. Morrison, (Proceedings of Ports 83, Kong Wong, ed., 1983), p730-744.

Marine Elevator Transfer and Ship Repair Facility: Newfoundland Dockyard, St. John's, Newfoundland, A. A. Burgess, R. T. Parsons and A. King, (Proceedings of Ports 83, Kong Wong, ed., 1983), p690-703.

Ductility

Computer-Simulated Flexural Tests of Partially Pre-stressed Concrete Sections, M. Z. Cohn and M. Bartlett, ST Dec. 82, p2747-2765.

Ductile Anchor Bolts for Tall Chimneys, Stephen J. Powell and Anthony H. Bryant, ST Sept. 83,

p2148-2158.

Dynamic Response of Coupled Wall Systems, J. D. Aristizabal-Ochoa, ST Aug. 82, p1846-1857.

Length of Flow Separation over Dunes, Peter Engel, HY Oct. 81, p1133-1145.

Artificial Dune Serves Protection Purpose, CE Aug. 83,

Beach/Dune Changes on Natural and Developed Coasts, Paul A. Gares, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1178-1194.

Bed Load Discharge Coefficient, Peter Engel and Y.

Bed Load Discharge Coefficient, Feter Engel and Y. Lam Lau, HY Nov. 81, p1445-1454. Design of Dunes as Coastal Protection in the Delta Area of the Netherlands, Ir. C. Visser, (Coastal Structures '83, J. R. Weggel, ed., 1983), p792-805. Length of Flow Separation over Dunes, Peter Engel, HY Oct. 81, p1133-1145.

Modified Kinematic Model: Application to Bed Forms, Charles C. S. Song, HY Aug. 83, p1133-1151.

Movable-Bed Modeling Law for Coastal Dune Erosion, Steven A. Hughes, WW May 83, p164-179. Nitrogen-Fixing Plants for Coastal Management, W. N.

Tiffney, Jr. and D. E. Eveleigh, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p102-111. Post-Storm Management and Planning in Avalon, New Jersey, Stewart C. Farrell and John W. Sinton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p662-681.

Predictive Computational for Beach and Dune Erosion During Storm Surges, Pier Vellinga, (Coastal Structures '83, J. R. Weggel, ed., 1983), p806-819.

Probabilistic Design of Dunes, Jan van de Graaff, (Coastal Structures '83, J. R. Weggel, ed., 1983), p820-831.

The Value of Coastal Dunes as a Form of Shore Protection in California, USA, Karl F. Nordstrom and Norbert P. Psuty, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p873-885. Volunteer Based, Low-Cost Sand Dune Development,

Stephen R. Gabriel, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p886-896.

Dye studies

Field Calibration of Stream-Tube Dispersion Model, Forrest M. Holly, Jr. and Georges Nerat, HY Nov. 83, p1455-1470.

Residence Time: Application to Small Boat Basins, Jacobus van de Kreeke, WW Nov. 83, p416-428.

Dynamic characteristics

Dynamic Behavior of Pile Groups, Mohammed M. Ettouney, Joseph A. Brennan and Michael F. Forte, GT March 83, p301-317.

Dynamic loads

Dynamic Sediment Properties, Mississippi Delta, Sibel Pamukcu, J. K. Poplin, J. N. Suhayda and M. T. Tumay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p111-132.

Experiments on Active Control of Floating Platforms, Morris Stubbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p577-580.

A Method for Estimation of Hysteretic Force Parameters, R. H. Sues, S. T. Mau and Y. K. Wen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p311-314.

Nonlinear Torsional Dynamic Response of Footing, Robert Henke, F. E. Richart, Jr. and Richard D.

Noots, GT Jan. 83, p72-88.

Numerical Studies in Homogenization of Periodic Composites, Akhilesh Maewal, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Repetitive Load Deformation of Cohesionless Soil, Vishnu A. Diyaljee and Gerald P. Raymond, GT Oct.

82, p1215-1229.

Seismic Response of End Bearing Piles, Raul Flores-Berrones and Robert V. Whitman, GT April 82, p554-569.

West Breakwater-Sines New Aspects of Armor Units, R. L. Greeneveld, A. Mol and P. A. J. Zwetsloot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p45-56.

Dynamic models

Modified Kinematic Model: Application to Bed Forms, Charles C. S. Song, HY Aug. 83, p1133-1151. Sewer Network Routing by Dynamic Wave Characteristics, A. Suha Sevuk and Ben Chie Yen, HY March 82, p379-398.

Transient Mixed-Flow Models for Storm Sewers, C. S. Song, James A. Cardle and Kim Sau Leung, HY Nov.

83, p1487-1504.

Dynamic pressure Nonlinear Analysis of Liquid-Filled Tank, Wing Kam Liu and Dennis Lam, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al, eds., 1983), p1079-1082. Wave-Induced Pressures on Buried Pipelines, Susan H. Davidson, William G. McDougal and Charles K Sollitt, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p129-143.

Dynamic programming Gravity Wastewater Collection Systems Optimization, A. Gupta, S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209.

Models for Water and Reuse Wastewater Planning, Mary Schwartz and Larry W. Mays, EE Oct. 83, p1128-1147.

Dynamic properties

Hysteresis Identification of Existing Structures, Sassan

Toussi and James T. P. Yao, EM Oct. 83, p1189-1202. Structural Identification-Pros and Cons, Paul Ibanez and Kenneth D. Blakely, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p303-306.

Young's Modulus of Subcoal Strata by Ultrasonic Testing, Steven M. Tillman, GT May 83, p747-751.

Dynamic response
Alongwind Response Estimation: Closed Form Solution, Giovanni Solari, ST Jan. 82, p225-244. Alongwind Response Estimation: Structural Classifi-

cation, Giovanni Solari, ST Feb. 83, p575-580.
Comparison of 2-D and 3-D Dynamic Analyses of Earth Dams, Lelio H. Mejia and H. Bolton Seed, GT Nov. 83, p1383-1398.

Computation of Inelastic Response Spectra, James M. Nau, EM Feb. 83, p279-288. Computer Based Testing of Dynamic Response, Thomas Glebas, Levon Minnetyan and Gordon B. Batson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p589-592.

Design of Protective Structures Against Blast, Shlomo
Ginsburg and Uri Kirsch, ST June 83, p1490-1506. Dynamic Lateral Pile-Group Effects, Takaaki Kagawa,

GT Oct. 83, p1267-1285. Dynamic Response Analysis of Elevator Model, T. Y. Yang, H. Kullegowda, Rakesh K. Kapania and Anshel J. Schiff, ST May 83, p1194-1210.

Dynamic Response and Liquefaction of Earth Dams, Tareg Ahmad Mansouri, John D. Nelson and Erik G. Thompson, GT Jan. 83, p89-100.

Dynamic Response of a Multilayer Bimodulus Beam, A. A. Sarhangnezhad and V. I. Weingarten, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p467-479.

Dynamic Response of Buried Concrete Arch to Blast Loading, Ivan Nelson and Chung Gong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p989-992.

Dynamic Response of Composite Plates by a 3-D Element, J. N. Reddy and N. S. Putcha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p503-506.

Dynamic Response of Finite Element Shells on Columns, T. Y. Yang and Rakesh K. Kapania, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p234-237.

Dynamic Response of Rigid Foundations by the Time Domain B.E.M., C. C. Spyrakos, D. L. Karabalis and D. E. Beskos, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p170-175.

Dynamic Response of Rigid Prism Assemblies, Robert H. Allen, Jacobo Bielak and Irving J. Oppenheim, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p142-145.
Free Vibration of Parabolic Cables, Anestis S. Veletsos and Georges R. Darbre, ST Feb. 83, p503-519.
Impact Damage in Reinforced Concrete Shell Struc-

tures, Yves Crutzen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p981-984. Impact Response of Buckled Composite Laminates, J.

K. Chen and C. T. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p515-518.

Impact Stresses During Dynamic Compaction, Paul W. Mayne and Jones S. Jones, Jr., GT Oct. 83, p1342-1346.

Inelastic Building Analysis Based on INRESB-3D-II, Franklin Y. Cheng and James A. Volker, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p501-514. Inelastic Dynamic Response of Braced Tall Buildings to

Earthquakes, P. Jayachandran and G. Asfour, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p146-149.
Lateral Dynamic Response of Constrained-Head Piles, Alvaro Velez, George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081.

Lateral Earthquake Response of Suspension Bridges, Ahmed M. Abdel-Ghaffar and Lawrence T. Rubin, ST March 83, p664-675.

Multimode Bridge Response to Wind Excitations, Y. K. Lin and J. N. Yang, EM Apr. 83, p586-603. Nonlinear Torsional Dynamic Response of Footing, Robert Henke, F. E. Richart, Jr. and Richard D.

Woods, GT Jan. 83, p72-88. Response Analysis of Offshore Structures, Kapil C Barik and Velu Paramasivam, WW Nov. 83, p363-

Seismic Analysis of Slender Coupled Walls, J. Dario

Aristizabal-Ochoa, ST July 83, p1538-1552.
Stochastic Response of Yielding Multi-Story Structures, Loren D. Lutes and Tysh Shang Jan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p879-882.
Truck Suspension Models, Krishnan Kutty Kunjamboo and Colin O'Connor, TE Sept. 83, p706-720.

Dynamic responses

Dynamic Responses of Flyash, R. C. Chaney, H. Y. Fang and G. W. Ellis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Dynamic stability

Computational Aspects of Dynamic Stability of Elastoplastic Shells, Lothar Haefner and Kaspar J. William, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p376-379.

Dynamic Stability of Kelvin-Viscoelastic Column, G.

Ahmadi and P. G. Glockner, EM Aug. 83, p990-999.

Dynamic Stability of Viscoelastic Cylindrical Shells, S.
Dost and P. G. Glockner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p355-358.

Dynamic structural analysis

An Approximate Dynamic Analysis of Tall Buildings, P. C. Chang and D. A. Foutch, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p365-378.
Approximate Stiffness Method for Dynamic Analysis, Ali A. K. Haris and Shatha Naman, (Proceedings of

Ali A. K. Haris and Shatha Naman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p233-241.
Dynamic Analysis of Light Equipment in Structures: Modal Properties of the Combined System, Jerome L. Sackman, Armen Der Kiureghian and Bahram Nour-Omid, EM Feb. 83, p73-89.
Dynamic Analysis of Light Equipment in Structures: Response to Stochastic Input, Armen Der Kiureghian, Jerome L. Sackman and Bahram Nour-Omid, EM Feb. 83, p90-110.
Dynamic Analysis of Tall Buildings, Mir M. Ali, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p351-364. p351-364.

Dynamics of Frames with Axial Constraints, William Weaver, Jr. and Moshe Eisenberger, ST March 83, p773-784

p1/13-184.
Inelastic Dynamic Response of Cable Networks, Manolis Papadrakakis, ST May 83, p1139-1154.
Seismic Reliability of Damaged Concrete Beams, M. Shinozuka and R. Y. Tan, ST July 83, p1617-1634.
Torsional Coupling and Earthquake Response of Simple Elastic and Inelastic Systems, Christopher L. Kan and Anil K. Chopra, ST Aug. 81, p1569-1588.

Bridge Dynamic Tests: Implications for Seismic Design, Bruce M. Douglas and Gary M. Norris, TC Apr. 83,

Centrifugal Modeling of Soil Liquefaction Suscepti-

Centifugai Modeling of Soil Educiacion Susceptibility, Kandiah Arulanandan, A. Anandarajah and A. Abghari, GT March 83, p281-300. Dynamic Testing and Analysis of Garoupa PGP-1 Piles, Rune Dahlberg and Sergio Matos, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p581-595. Dynamic Tests of Three Commercial Buildings, Charles

A. Kircher, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p368-371.

Dynamic Response of Coupled Wall Systems, J. D. Aristizabal-Ochoa, ST Aug. 82, p1846-1857. Equivalent Stationary Motion for Liquefaction Study, Jeen-Shang Lin, Robert V. Whitman and Erik H. Vanmarcke, GT Aug. 83, p1117-1121.

First-Passage Probability for Two-Mode Systems, Loren D. Lutes and Shen-Ho Tzuang, EM Dec. 83, p1358-1374.

Frequencies of Continuous Plates by Moment-Ratio Method, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p2905-2921.

Markov Approximation to Transient Vibration, Polychronis-T. D. Spanos and George P. Solomos, EM

Aug. 83, p1134-1150.

Method for Improving Incomplete Modal Coupling,
Robert Bajan, Anant R. Kukreti and Chuan C. Feng,

EM Aug. 83, p937-949.

Multiple Mode Nonlinear Analysis of Circular Plates, Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123.

Earth dam performance Seismic Displacement Analysis of Earth Dams, Sarada K. Sarma, GT Dec. 81, p1735-1739.

San Luis Dam Slide—Operational Problems and Solutions, Raymond H. Williams and Daniel B. Steiner, (Accomplishments and Impacts of Resvoirs, Gordon Green, et al, eds., 1983), p125-137.

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038. Geotechnical Characterization of Desiccated Clay, Larry J. Mahar and Michael W. O'Neill, GT Jan. 83,

- OCR Relationships in Soil, Paul W. Mayne and Fred H. Kulhawy, GT June 82, p851-872.

Overall Stability of Anchored Retaining Walls, William F. Anderson, Thomas H. Hanna and Magued N. Abdel-Malek, GT Nov. 83, p1416-1433

Soil-Pipe Interaction and Pipeline Design, Syed Ahmed, Ralph W. McMickle and Carl L. Brassow, TE Jan. 81, p45-58.

Earth pressure balance Measured Soil Response to EPB Shield Tunneling, G. Wayne Clough, Bryan P. Sweeney and Richard J. Finno, GT Feb. 83, p131-149.

Earth reinforcement Earth Reinforced Dams: First in U.S., CE Oct. 83, p60-63.

Field Measurements of an Earth Support System, C. K. Shen, S. Bang, K. M. Romstad, L. Kulchin and J. S. DeNatale, GT Dec. 81, p1625-1642.

Ground Movement Analysis of Earth Support System, C. K. Shen, S. Bang and L. R. Herrman, GT April 81, p1609-1624.

Earth structures N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures, American Society of Civil Engineers, 1983, 23pp.

Earthmoving
Economic Service Life of Building Construction Equipment, Shlomo Selinger, CO Dec. 83, p398-405.

Behavior of Unanchored Oil Storage Tanks: Imperial Valley Earthquake, Medhat A. Haroun, TC Apr. 83, p23-40.

Damage Analyses of Imperial County Services Building, R. Shepherd and A. W. Plunkett, ST July 83, p1711-1726.

Nonlinear Analysis of Liquid Filled Tank, Wing Kam Liu and Dennis Lam, EM Dec. 83, p1343-1357. Seismic Damage in Reinforced Concrete Frames, Hooshang Banon, John M. Biggs and H. Max Irvine,

Hoosaang Banon, John M. Biggs and H. Max Irvine,
 ST Sept. 81, p1713-1729.
 Seismic Reliability of Damaged Concrete Beams, M.
 Shinozuka and R. Y. Tan, ST July 83, p1617-1634.
 Seismic Response Arising from Traveling Waves, James
 R. Morgan, William J. Hall and Nathan M. Newmark, ST Apr. 83, p1010-1027.

Earthquake engineering Advisory Notes on Lifeline Earthquake Engineering The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (Wil-

liam J. Hall, chmn.), 1983, 232pp. Experimental and Analytical Prediction of the Me-chanical Characteristics for 7-Story R/C Frame-Wall Structure, A. E. Aktan and V. V. Bertero, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p363-367.

Experimental Facilities for Earthquake Research at CTL, Donald M. Schultz, Henry G. Russell and W. G. Corley, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p609-612. A Glance of Research Facilities in Tsukuba, Japan, Leon Ru-Liang Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p597-600

Scattering of SH Waves by Subsurface Topography, Marijan Dravinski, EM Feb. 82, p1-17.

Seismic Safety: 10-Story UBC Designed Steel Building, Shih-Sheng Paul Lai, EM Apr. 83, p557-575. Shaking Table Testing Facilities Around the World, Asadul H. Chowdhury, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p617-620.

A Transmitting Boundary for Discrete Methods, Z. P. Liao and H. L. Wong, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p158-161.

Earthquake excitation
Calculation of Power Spectra from Response Spectra, Dieter D. Pfaffinger, EM Feb. 83, p357-372. Control of Structures Subjected to Seismic Excitation,

Leonard Meirovitch and Lawrence M. Silverberg,

EM Apr. 83, p604-618.

Group Effect on Piles in a Liquefying Sand Deposit, Pedro A. De Alba, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p300-314.

Vibration of Asymetrical Building-Foundation Systems, Thambirajah Balendra, Chan Weng Tat and Seng-Lip Lee, EM Apr. 83, p430-449.

Earthquake loads

Ductile Anchor Bolts for Tall Chimneys, Stephen J. Powell and Anthony H. Bryant, ST Sept. 83, p2148-2158.

Dynamic Centrifuge Modeling, K. Arulanandan and A. Anandarajah, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p626-629

Dynamic Response and Liquefaction of Earth Dams, Tareg Ahmad Mansouri, John D. Nelson and Erik G.

Thompson, GT Jan. 83, p89-100.

Experiments on Active Control of Floating Platforms, Norris Stubbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p577-580.

Probabilistic Pore Presure Analysis for Seismic Loading, Jean-Lou Chameau and G. Wayne Clough, GT

Apr. 83, p507-524.

Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear Structures and Materials, 1983, 56pp.
Seismic Response of San Francisco Waterfront Fills, G.

Wayne Clough and Jean-Lou Chameau, GT Apr. 83,

p491-506.

Seismic Safety of Soil Deposits Against Liquefaction, J. E. A. Pires, Y. K. Wen and A. H. -S. Ang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p871-874.

Shear Building Optimization with Dynamic Constraints, Kuan-Chen Fu and Jamal M. Abu-Eid, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p764-768.

Shear Deformation in Seismic Frame Structures.

Richard C. Fenwick, ST Apr. 83, p965-976. Wave and Earthquake Response of Offshore Structures: Evaluation of Modal Solutions, Stavros A. Anagnostopoulos, ST Oct. 82, p2175-2191.

Earthquake magnitude scale

Some Considerations in the Selection of Design Earthquakes for Critical Structures, Dean Ostenaa and Louis R. Frei, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p1-9.

Earthquake resistant structures Automated Design of Aseismic R/C Structures, Farzad

utomated Design of Assistme R/C Structures, Farzad Naeim and James C. Anderson, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p608-621.

Building Critical-Mode Control: Nonstationary Earthquake, Jann N. Yang and M. J. Lin, EM Dec. 83, p1375-1389

Damage Analyses of Imperial County Services Build-ing, R. Shepherd and A. W. Plunkett, ST July 83.

p1711-1726.

Earthquake-Resistant Design of Earth Dams, H. Bolton Seed, (Seismic Design of Embankments and Caverns,

Terry R. Howard, ed., 1983), p41-64.

Eccentric Bracing in Tall Buildings, Andrew T. Merovich, Joseph P. Nicoletti and Earl Hartle, ST Sept. 82, p2066-2080.

Effect of Tuned-Mass Dampers on Seismic Response, John R. Sladek and Richard E. Klingner, ST Aug. 83, p2004-2009.

Experimental Facilities for Earthquake Research at CTL, Donald M. Schultz, Henry G. Russell and W. G. Corley, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p609-612.
Infills in Seismic Resistant Building, Vitelmo Bertero and Steven Brokken, ST June 83, p1337-1361.
Intermountain Power Project Seismic Criteria, Robert

P. McBean, Luis E. Escalante and Arthur W. Shively,

TC Apr. 83, p73-87.

Peak Response of Hysteretic Structures, Faisal Wafa and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p214-217.

Restoration, CE June 83, p41-43. Seismic Reliability of Existing Buildings, Haresh C. Shah and Weimin Dong, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p923-927.

Seismic Response of Friction Damped Braced Frames Avtar S. Pall and Cedric Marsh, ST June 82,

p1313-1323

pij3-1323.

Torsional Coupling and Earthquake Response of Simple Elastic and Inelastic Systems, Christopher L. Kan and Anil K. Chopra, ST Aug. 81, p1569-1588. West Coast High-Rise Condo Opts for Ductile Concrete Frame, Craig G. Huntington and Y. C. Yang, CE

July 83, p39-41.

Earthquake simulation models

Design of a Composite Shaking Table for Earthquake Simulation, A. M. Reinhorn and S. P. Prawel, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p725-736

Geotechnical Centrifuges and Earthquake Simulator, Bruce L. Kutter, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al, eds., 1983), p621-625.
Multiple Time History Seismic Evaluation, Daniel M.
Brown, Donald W. Whitmire and James E. Beavers, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p222-225.

Analysis of Tidal Records of the 1964 Alaskan Tsunami, Basil W. Wilson, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p765-784.

Earthquake Motions Using a New Data Processing Scheme, S. Shyam Sunder and Betsy Schumacker, EM Dec. 82, p1313-1329.

Equivalent Stationary Motion for Liquefaction Study, Jeen-Shang Lin, Robert V. Whitman and Erik H. Vanmarcke, GT Aug. 83, p1117-1121. Estimating Ground Motions for Small Nearby Earth-

quakes, A. McGarr, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p113-127. Evaluation of Liquefaction Potential Using Field

Performance Data, H. Bolton Seed, I. M. Idriss and Ignacio Arango, GT March 83, p458-482. Finite Element Analysis of Reservoir Vibration, Jag

mohan Humar and Magdy Roufaiel, EM Feb. 83, p215-230.

Ground Strain Estimation for Seismic Risk Analysis, Masanobu Shinozuka, Hiroyuki Kameda and Takeshi Koike, EM Feb. 83, p175-191. Liquefaction Sites, Imperial Valley, California, T. Leslie

Youd and Michael J. Bennett, GT March 83,

p440-457.

Reliability Analysis of Lifeline Systems, Hideji Kawa-kami, TC Aug. 83, p117-131.

Reliability of Dam-Reservoir during Random Earthquake, Cheng Yi Yang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983, 201pp.

Earthwork

Cold Regions Earthwork, R. G. Tart, Jr., (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983),

p32-37.

Earthwork Bid Estimating and Equipment Selection System2 (EBEES2), A. Fattah Chalabi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p74-87. Non-Center Line Layout, Frank Pearson, SU March 83,

p24-36.

Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82, p953-965.

Eccentric bracing

Cyclic Behavior and Design of Link Beams, Keith D. Hjelmstad and Egor P. Popov, ST Oct. 83, p2387-

Eccentric Bracing in Tall Buildings, Andrew T. Merovich, Joseph P. Nicoletti and Earl Hartle, ST Sept. 82, p2066-2080.

Eccentric load

Buckling of Eccentrically Loaded Curved Panels, Ted

T. Sokol, Jr., ST Sept. 83, p2097-2112. Ultimate Pile Capacity for Eccentric Inclined Load, George G. Meyerhof, A. Sahab Yalcin and Surendra K. Mathur, GT March 83, p408-423.

Ecology

Assessing and Managing Coral Reef Visual Resources

Assessing and wrananging Coral Reef visual Resources, Kerry J. Dawson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1507-1517. California Coastal Salt Marsh Restoration Design, Philip B. Williams and H. Thomas Harvey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1444-1456.

Environment in Coastal Engineering: Definitions and Examples, Cyril Galvin, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2264-2284. New Directions in Restoration of Coastal Wetlands,

Jens Sorensen and Susa Gates, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1427-1443.

Economic analysis

Critical Decision Making During Construction, David B. Ashley, Kazuyoshi Uehara and Burke E. Robinson, CO June 83, p146-162.

Economic Service Life of Building Construction Equipment, Shlomo Selinger, CO Dec. 83, p398-405 Inflation and Highway Economic Analysis, Philip D.

Cady, TE Sept. 83, p631-639.

Management Control System San Diego Water Utilities, Richard W. King, (Improving Productivity, J. R. King Jr., ed., 1983), p89-98.

Optimum Number and Capacity of Seaport Berths, Michihiko Noritake and Sakuo Kimura, WW Aug. 83, p323-339.

Project Evaluation in International Development, Branden B. Johnson, El Apr. 82, p122-132.

Availability Mechanics: Logical Economics, George F. McMahon, El Oct. 83, p265-273.

Public Works and Unemployment: A Panel Discussion,

CE Aug. 83, p46-49.

Economic development
Parking Policy and Downtown Economic Development, Michael D. Meyer and Mary McShane, UP

May 83, p27-43.

Economic factors
Construction Risk: Multivariate Approach, C. William
Ibbs, Jr. and Keith C. Crandall, CO June 82, p187-200.

Macrofirms: Construction Firms for the Computer Age, Gianfranco Dioguardi, CO March 83, p13-24.

Economic growth
Availability Mechanics: Logical Economics, George F. McMahon, El Oct. 83, p265-273. The Economic Impact of the Hugo Reservoir, Neil J.

Dikeman, Jr., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p31-44.
To Help the Economy, Invest in Public Works, Frederick C. Thayer, CE Sept. 83, p6.

Economic impact
The Economic Impact of the Hugo Reservoir, Neil J.

(Accomplishments and Impacts of Dikeman, Jr., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p31-44.

Economic Impacts of Sea Level Rise, Michael J. Gibbs, Murray Kenney and Charles E. Martin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2754-2767.

Esthetic Development of California's Bridges, Arthur L.

Elliot, ST Sept. 83, p2159-2174. Highway User Fee Boosts U.S. Economy, CE Dec. 83, p10.

The Impact of PSD Requirements for a Mione Mouth Coal Gasification Project, Theodore Reynolds Smith, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p1-4. A Privately Owned/Operated Reservoir/River System,

William M. Grove, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p166-179. Rigs to Reefs, Dana Larson, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p2845.

Social and Environmental Impacts: Edens Project, Henry M. Yamanaka, TE Sept. 83, p721-732.

Economic justification Economic Feasibility of Flood Control Improvements, Ralph A. Wurbs, WR Jan. 83, p29-47.

Economic models

Weather Modification Potential for Arizona, Larry C. Beddome, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p352-359.

Economics Praxeology and Engineering, Ronald A. Chadderton, El July 83, p159-169.

Ecosystems

Assessing the Short-Term Reduction in Streamflow pH Associated with Acid Precipitation, W. J. Gburek and H. B. Pionke, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p455-465. Coastal Zone '83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp.
Conceptual Guidelines for Aquatic Ecosystem Restoration, Vincent A. Lamarra, John Carter and Allen Medine, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p618-624.

Determining Long-Term Stability of Coastal Ecosystems, Arthur R. Benton, Jr. and Wallace W. Snell, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p392-407.

Energy-Related Use Conflicts for the Columbia River Estuary, John Garcia, Gary Ahlborn, Lincoln Loehr, Klaus Richter, Frank Westerlund and Jeremy Pratt, (Coastal Zone '23, Orville T. Magoon, et al, eds.,

1983), P1763-1780.

Heavy Metal Distribution and Interactions in the White River Ecosystem, Allen J. Medine, Vincent A. Lamarra and John G. Carter, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p867-877.

Human Factors Affecting Rocky Intertidal Fishes, John R. Moring, (Castal Zone '83, Orville T. Magoon, et al, eds., 1983), p1572-1585.

Oregon's New Coastal Research Initiative, Robert F.

Tarrant and George W. Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1302-1309. Qualitative Models for Marine Environmental Assessment, Charles J. Puccia, (Coastal Zone '83, Orville

T. Magoon, et al, eds., 1983), p1-14.
Simulation and Analysis of Cooling Lake Ecosystems:
Impacts of Power Plant Operations, D. B. Porcella, G. L. Bowie, T. M. Grieb and R. K. Kawaratani, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p797-804.

Vertical Mixing in Models of Stratified Flow, Steve C. McCutcheon, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p15-20.

Construction Education: Past, Present, and Future, Clarkson H. Oglesby, CO Dec. 82, p605-616. Engineering Students Perception of General Educational Requirements, Richard H. McCuen, El Oct.

83, p256-264. Grade Schools Need Engineering Courses, CE Feb. 83,

p26. Math/Science Bill Passes in House, CE June 83, p8.

Education-practice interchange First Call for Education Research Proposals, CE June 83, p64.

Dynamic Response and Liquefaction of Earth Dams, Tareg Ahmad Mansouri, John D. Nelson and Erik G.

Tareg Ahmad Mansouri, John D. Neison and ETIK U. Thompson, GT Jan. 83, p89-100.

Effective Stress Capacity Model for Piles in Clay, Leland M. Kraft, Jr., GT Nov. 82, p1387-1404.

General Effective Stress Method for Piles in Clay, Robert C. Kirby, Melvin I. Esrig and Benton S. Murphy, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1931) n457-408. 1983), p457-498.

Transient Stresses Induced in Sandbed by Wave Loading, Kenneth R. Demars, GT Apr. 83, p591-602.

Wastewater Effluent Is Pumped Uphill and Returns Via Aquifer, CE Nov. 83, p12.

Effluents

Active Chlorine Distribution in Secondary Effluents, Russell A. Isaac and J. Carrell Morris, (National

Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p593-599.

Effluent Limitations and Their Relationship to Ammonia Stream Standards for Aquatic Life, John D. Hendrick, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p335-341.

Evaluation of Selected Initial Dilution Models, Abu M. Z. Alam, Donald R. F. Harleman and Joseph M. Colonell, EE Feb. 82, p159-186.
Features of Federal Laws that Encourage Adoption of Land Application of Wastewater, Dean T. Massey, W.B. Acc. 83, p121-187.

WR Apr. 83, p121-133. Field Studies of Rapid Infiltration Treatment of Primary Effluent, E. R. Bennett and L. E. Leach, (National Conference on Environmental Engineering, Allen Medine, et al., eds., 1983), p41-49.
Groundwater Contamination due to Continuous Sources, Anand Prakash, HY April 82, p572-90.
In Situ Chemical Treatment of Lagoon Effluents, M.

John Cullinane, Jr. and Richard A. Shafer, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p81-88.

Medine, et al, cus., 1903, per os.

Isotherm for Moving Media Reactor, D. J. Bhatt, D. S.

Bhargava and P. S. Panesar, EE Apr. 83, p369-382.

Polymer Dosage Control in Dissolved Air Flotation, Ronald Gehr and J. Glynn Henry, EE Apr. 83, p448-465.

Power Reduced by Sludge Process Modifications, James G. Ashcraft, Tom Dittman and Diem Vuong, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p731-735.

Reuse of Municipal Effluent in Mineral Flotation, Paul

H. King, Alan M. W. Chu, Eric C. L. Chu and Gary L. Amy, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p464-470.

Simulation of Metal Transport in Streams, B. M. Chapman and D. R. Jones, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p635-642.

Water Conserv I: No More Discharge to Surface Water, Walter R. Fritz, John J. Kincaid, Kermit L. Prime and Michael J. Hanlon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p58-65.

Eigenvalues

Convergence of Modified Subspace Eigenanalysis Algorithms, Fathy "Fred" A. Akl, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p416-421.

Practical Reduction of Structural Eigenproblems,

Mario Paz, ST Nov. 83, p2591-2599. Timoshenko Beams on Linear Viscoelastic Foundations, Harutoshi Kobayashi and Keiichiro Sonoda, GG June 83, p832-844.

Discreet Model Improvement by Eigenvector Updating, Michail Zak, EM Dec. 83, p1437-1444.

Elastic analysis

Approximate Method for Lateral Load Analysis of High Rise Buildings, Fernand K. E. C. Mortelmans, Guido P. M. J. De Roeck and Dionys A. Van Gemert, ST Aug. 81, p1589-1610. Comparison of FEM for Nearly Incompressible Solids, David A. Wagner and Michael G. Katona, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p459-462.

Elastic Analysis of Laterally Loaded Frames, Donald J. Fraser, ST June 83, p1479-1489.

Finite Element Analysis in Design of Floor Systems,

Metro M. Hrabok and Terry M. Hrudey, ST Apr. 83, p909-925 Smooth Indentation of Finite Layer, Leon M. Keer and

Gregory R. Miller, EM June 83, p706-717.

Uniform Element Modeling of Tapered Frame Members, Eryk Kosko, ST Jan. 82, p245-264.

Elastic deformation

On Finite Deformation of Viscoelastic Disks, William W. Feng, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p535-538.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Elastic medium

Elastic Waves of a Cylinder in an Elastic Medium, Sumio G. Nomachi, Kenichi G. Matsuoka, Toshiyuki Ohshima and Norimitsu Kishi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p407-410.

Elastic properties

Concomitant Strength Relationship for Lumber, Robert

J. Tichy, ST Aug. 83, p1854-1868.

Dynamic Lateral Pile-Group Effects, Takaaki Kagawa, GT Oct. 83, p1267-1285.

Effect of Geologic History on the Design Parameters of

Heavily Overconsolidated Till, Nassef Soliman, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p246-268.

The Finite Element Elastic Beam-Column, Joao A. Teixeira de Freitas and David Lloyd Smith, EM Oct.

83, p1247-1269.

Intensity of Corner and Stress Concentration Factor, Intensity of Corner and Stress Concentration Pactor,
Norio Hasebe and Jiro Iida, EM Feb. 83, 3446-356.
Mechanical Characterization of Oil Shale, Ken P.
Chong and George F. Dana, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983), p782-785.

New Subgrade Model Applied to Mat Foundations, John S. Horvath, GT Dec. 83, p1567-1587. Statistical Analysis of Timber Bridges, Baidar Bakht,

ST Aug. 83, p1761-1779.

Transversely Isotropic Medium with Lined Hole, K. Chandrashekhara and P. Gopalakrishnan, EM Apr. 83, p377-393.

Elastic restraints

Finite Beams on Elastic Foundation with Restraints, Bing-Yuan Ting, ST March 82, p611-621.

Lifting of Heavy Elastic Sheet, C. -Y. Wang, EM Feb. 83, p47-53.

Elasticity

Circular Voided Concrete Slab Stiffnesses, G. Elliott and L. A. Clark, ST Nov. 82, p2379-2393.
Collapse Loads of Laced Columns, Sven Eilif Svensson

and Jan Kragerup, ST June 82, p1367-1384. Finite Element Solutions of Deep Beams, Mohammed M. Ettouney and Walter Schmidt, ST July 83, p1569-1584.

Frictional Slip Between Layer and Substrate, David Schmueser, Maria Comninou and John Dundurs, EM

Dec. 81, p1103-1118.
Geometric Nonlinearities in Nonsway Frames, Shu-

Ming A. Lai, James G. MacGregor and Jostein Hellesland, ST Dec. 83, p2770-2785.

Geometric Nonlinearities in Unbraced Multistory

Frames, Shu-Ming A. Lai and James G. MacGregor, ST Nov. 83, p2528-2545.

Geotechnical Characterization of Desiccated Clay, Larry J. Mahar and Michael W. O'Neill, GT Jan. 83, p56-71.

William R. Spillers, Edward D. Eich, Allan N. Greenwood and Russell Eaton, EM Aug. 83, p1124-

Inelastic Lateral Torsional Buckling of Beams, Bruce A. Hollinger and C. P. Mangelsdorf, ST Aug. 81,

Modulus of Subgrade Reaction: New Perspective, John S. Horvath, GT Dec. 83, p1591-1596

On the Derivation of Harmonic and Neutral Holes, Gordon S. Bjorkman, Jr. and Rowland Richards, Jr., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p463-466.

On the Goals of Computation in Stress Analysis, Barna A. Szabo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p818-820.

Orthotropic Beams under Normal and Shear Loading Terry D. Gerhardt and Jen Y. Liu, EM Apr. 83, p394-410.

Periodically Supported Heavy Elastic Sheet, L. T. Watson and C. Y. Wang, EM June 83, p811-820.

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp.

Singularities at the Tip of a Crack Normal to the

Singularities at the TIP of a Crack Normal to the Interface of an Anisotropic Layered Composite, Phuong H. Hoang and T. C. T. Ting, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p479-482.

Truncated Hollow Spheres, Terry D. Gerhardt and Shun Cheng, EM June 83, p885-895.

Unsymmetric Plane Elasticity, Ihor D. Kotchergenko, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p385-388.

Elastomeric Bearings: State-of-the-Art, Charles W. Roeder and John F. Stanton, ST Dec. 83, p2853-2871.

Elastoplasticity
Double Chord RHS Trusses: Analytical Model,
Farooque A. Mirza and Robert M. Korol, ST Dec.
83, p2812-2828.

Electric power plants Float-In Powerhouses, George A. Makela, EY June 83,

Intermountain Power Project Seismic Criteria, Robert P. McBean, Luis E. Escalante and Arthur W. Shively, TC Apr. 83, p73-87.

Elevators

Dynamic Response Analysis of Elevator Model, T. Y. Yang, H. Kullegowda, Rakesh K. Kapania and Anshel J. Schiff, ST May 83, p1194-1210.

Embankment stability

Corrected Field Vane Strength for Embankment Design, Amr S. Azzouz, Mohsen M. Baligh and Charles C. Ladd, GT May 83, p730-734.

Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82, p953-965.

Embankments

Centrifugal Modeling of Transient Water Flow, Kenneth W. Cargill and Hon-Yim Ko, GT Apr. 83,

Embankment Failure on Clay near Rio de Janeiro, J. A. Ramalho-Ortigao, Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479.

Seepage from Free Water above Impermeable Tailings, Lewis T. Isaacs and Bruce Hunt, GT Nov. 81, p1563-1577.

Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983, 201pp.

Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82, p953-965.

Stress and Seepage Analysis of Earth Dams, G. C. Li and C. S. Desai, GT July 83, p946-960.

Phytoplankton Modeling in the Embayments of Lakes, Jan-Tai Kuo and Robert V. Thomann, EE Dec. 83, p1311-1312.

Emission control
Assessment of NO_x Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, Rob Klausmeier, Jim Rouge, Pamela Beekley and James Norton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1208-1227. Direct Gas Emission Measurement Techniques and the

Utilization of Emissions Data from Hazardous Waste Sites, Charles E. Schmidt and W. David Balfour, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p690-699.

Emmission Control Becoming More Precise, CE Jan.

Energy and Environmental Audits: Design for Cost Savings and Minimum Emissions, John A. Chicca, Daniel H. Johnnie, Jr. and John F. Nagy, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p5-7.

Wastewater and Air Treatment Equipment Combine to Retrofit Incinerator, CE Dec. 83, p16.

Emission standards

Voc Emission Research Program for Hazardous Waste Treatment and Disposal Facilities, Stephen C. James, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p660-661. Wastewater and Air Treatment Equipment Combine to Retrofit Incinerator, CE Dec. 83, p16.

Direct Gas Emission Measurement Techniques and the Utilization of Emissions Data from Hazardous Waste Sites, Charles E. Schmidt and W. David Balfour, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p690-699. Energy and Environmental Audits: Design for Cost Savings and Minimum Emissions, John A. Chicca, Daniel H. Johnnie, Jr. and John F. Nagy, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p5-7.
Field Evaluations of Volatilization Rate Models for Land Disposal Facilities, Seong T. Hwang, (National Conference on Environmental Engineering, Allen Medicas et al., eds., 1982), p669

Medine, et al, eds., 1983), p680-689.
Regulation and Offshore Oil and Gas Facilities, Arrie Bachrach, David Morycz, Suzanne Phinney and Stephen Kahane, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al,

eds., 1983), p36-39.

Secure Landfills—Hopes and Fears, Lyse D. Helsing and Thomas T. Shen, (National Conference on a start of the conference of the confere Environmental Engineering, Allen Medine, et al, eds.,

1983), p670-679.

Empirical equations
Seepage Around Horizontal Drains in Hill Slopes,
Edmund C. C. Choi, HY Oct. 83, p1363-1368.

Employee relations

Employee relations
Employee Review—The Key to Improving Productivity, Charles M. McReynolds, (Improving Productivity, J. R. King Jr., ed., 1983), p41-49.
Human Resource Management: Turnover or Retention, Raad H. Hermes, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983),

Managing Productivity during an Attrition Program, Bill Macaitis, (*Improving Productivity*, J. R. King Jr., ed., 1983), p79-88.

Motivated Personnel Produce Winning Constructors, John W. Fowler, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p49-54. Motivating/Rewarding in a Consulting Firm, Dennis R.

Martenson, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p28-39.
The Performance Evaluation, Milan Moravec, CE Nov.

83, p55-57.

Employees

Financial Incentives to Raise Productivity, Alexander Laufer and John D. Borcherding, CO Dec. 81, p745-756.

ASCE Salary Survey 1981, Committee on Employment Conditions of the Professional Practice Division of the American Society of Civil Engineers, 1982, 76pp. The Successful Job Interview: Dos and Don'ts, Edward A. Kippel, CE Oct. 83, p73-75

Weak Demand for Engineers, CE Jan. 83, p27.

Employment conditions
Employment Conditions: United States versus Overseas, Joseph E. Hardee, El Apr. 83, p103-112. Personnel: Recruiting, Motivating, Rewarding, 1983,

Employment opportunities
Demand for Engineers Increasing, CE Nov. 83, p10. How Do You Change Employment Successfully? James C. O'Donnell, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p7-15. The Successful Job Interview: Dos and Don'ts, Edward A. Kippel, CE Oct. 83, p73-75.

Characterization of Asphalt Emulsion Treated Bases, Michael S. Mamlouk and Leonard E. Wood, TE March 81, p183-196.

Moment Distribution Factors for Pipe Encasements, George P. Martin, ST July 81, p1355-1359.

End bearing piles

Seismic Response of End Bearing Piles, Raul Flores-

Berrones and Robert V. Whitman, GT April 82, p554-569

End restraint

Behavior of Steel Columns: A Comprehensive Treat-ment, Reidar Bjorhovde and Wai-Fah Chen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p85-102

End Restraint Effect on Steel Column Strength, Zia Razzaq, ST Feb. 83, p314-334.

Small End Restraint Effects on Strength of H-columns, Hironori Sugimoto and Wai F. Chen, ST March 82, p661-681.

Endangered species

Deepening Los Angeles Harbor, Daniel Muslin, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Local Endangered Species Preservation Palm Bay, Florida, Diane D. Barile, Kevin McMillian and Todd Gipe, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p769-782.

A Planning Approach to Critical Habitat Protection, Steven L. Pollock and Alan W. Avery, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p749-768.

Energy Highligts of US-China Energy Conference, S. W. Yuan, CE June 83, p70.

Is Federal Energy R&D All That Counts? Joel Rosenblatt, CE June 83, p6. Reagan's Lopsided Energy R&D Policy: Peril to U.S. Security? Eugene E. Dallaire, CE Jan. 83, p56-67.

Energy absorption

Cyclic Behavior and Design of Link Beams, Keith D. Hjelmstad and Egor P. Popov, ST Oct. 83, p2387-

Energy adsorption

Minisized Automobiles and Roadside Appurtenances, John F. Carney, III, TE Nov. 83, p815-823.

Energy conservation

Energy and Environmental Audits: Design for Cost Savings and Minimum Emissions, John A. Chicca, Daniel H. Johnnie, Jr. and John F. Nagy, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p5-7. Four Buildings Cited for Energy-Efficient Design, CE

Jan. 83, p9-12.

Passive Solar and Daylighting Cut Building's Energy

Use, CE Dec. 83, p58-59.
Policy Analysis Implications of Four Cogent Transportation Topics, Yupo Chan, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p32-53. The Reagan Energy Policy vs. Its Critics, CE Jan. 83,

Underground, CE June 83, p34-37.

Will Higher Energy Prices Alone Spur Needed Energy-Conservation Measures?, CE Jan. 83, p62-63.

Energy Efficiency of Arctic Transportation Systems, Derek M. Sherman and Edwin M. Rhoads, EY Dec. 83, p236-246.

Highways, Transport, and Energy: A Look Ahead, Herbert S. Levinson, TE Sept. 82, p447-456. Passive Solar and Daylighting Cut Building's Energy

Use, CE Dec. 83, p58-59.

Power Reduced by Sludge Process Modifications,
James G. Ashcraft, Tom Dittman and Diem Vuong, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p731-735.

Analysis of Optimal Ocean Wave Energy Conversion, Michael E. McCormick, WW May 83, p180-198. Confined Radial Buoyant Jet, David J. Fry and E. Eric

Adams, HY Sept. 83, p1185-1202.

Adams, ITI Sept. 5., p103-1202.

A Proposal for Wave Energy Conversion Near Cape Town, G. de F. Retief, G. K. Prestedge and F. P. J. Muller, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p245-260.

Radial Source-Sink Flow in Stratified Ocean, Gerhard H. Jirka, R. Peter Johnson and Frank E. Sargent, HY Dec. 81, p1631-1650.

Energy development Bedrock Aquifers of the Northern Great Plains, Joe S. Downey, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p29-35.

Coastal Zone Management and Energy Development: Who Pays the Price? Ronald Ritschard and Edward Kaplan, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p61-78. Cogeneration Technology Under Review, CE June 83,

po. Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, ed. and Richard W. Goodwin, ed., 1983, 53pp.
Energy and Native Concerns in the U.S. Arctic, Joanne Barnes Jackson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2145-2162.
Energy-Related Use Conflicts for the Columbia River

Estuary, John Garcia, Gary Ahlborn, Lincoln Loehr, Klaus Richter, Frank Westerlund and Jeremy Pratt, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1763-1780.

1983), p1763-1780. Evaluating Energy Exchange Benefits Using the Existing Reservoir Systems In the United States, Gordon B. Freeny, Mike S. Cowen and Larry Y. Shiao, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p100-124. The Future: Are C.E.'s Going to be Involved? J. Charles Jennett, El July 83, p229-234. Highligts of US-China Energy Conference, S. W. Yuan, C.E. June 83, p70.

OCS Development in the Pacific Region: Status and Issues, Ronald Ritschard and Sharon Maves, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p2116-2136. Oil and Gas Development in Coastal Upland Areas: Understanding the Issues, and Recommendations for Land Use Planning, Melvin R. Willis, (Coastal Zone

'83, Orville T. Magoon, et al, eds., 1983), p1753-1762. Reagan Signs Energy and Water Bill, CE Sept. 83, p10.

Energy dissipation
Circular Hydraulic Jump, John D. Lawson and Brett C.

Chroular Hydraudic Jump, John D. Lawson and Brett C. Phillips, HY Apr. 83, p505-518. Dissipation of Wave Energy in a Seawater Outfall Channel, K. G. Witthaus, G. De F. Retief, G. K. Prestedge and L. R. Huskins, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2189-2203. Minimum Energy and Energy Dissipation Rate, Charles C. S. Song and Chin Ted Yang, HY May 82,

Modeling of Steel Tube Vehicular Crash Cushion, John F. Carney, III, Chris D. Austin and Steven R. Reid,

TE May 83, p331-346.
Wave Energy Variation Near Cape Town, South Africa, F. A. Shillington, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p473-484.

Energy losses Energy Expenditure in Curved Open Channels, Howard

H. Chang, HY July 83, p1012-1022.

Energy Losses and Shear Stresses in Channel Bends, Raul Pacheco-Ceballos, HY June 83, p881-896.

Energy Losses in Irregular Channels, Ahad K. Kazemia

pour and Colin J. Apelt, HY Oct. 83, p1374-1379.

Energy recovery system

Delaware Reclamation Project Features Codisposal and Energy Recovery, Pasquale S. Canzano and N. C. Vasuki, (National Conference on Environmental En-

vasuki, (National Conference on Environmental Engineering, Allen Medien, et al, eds., 1983), p152-157.
European Experience in Coincineration, John G. Stroka, Richard E. Foerster, Carl M. Koch and John E. Spitko, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p366-

Net Energy Production in Wastewater Treatment, Edward D. Wetzel and Robert L. Johnson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p577-584.

Operation and Control of Municipal Co-Incineration

Systems, Jeannette A. Semon, (National Conference on Environmental Engineering, Allen Medine, et al,

eds., 1983), p375-380. Waste to Energy Facility, Llewellyn E. Clark and E. B. Mull, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p358-365.

Small Scale On-Site Disposal with Energy Recovery,
Brian R. Hogan, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p144-151.

Energy sources
Clinch River Breeder Reactor Program—On Target or
Not? Morgan I. Doyne and Krista Kotur, CE Aug.

83, pb.
Energy from Waste Business to Grow, CE Feb. 83
The Future: Are C.E.'s Going to be Involved? J.
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Hydro Recovery, CE June 83, p56-57.
Passive Solar and Daylighting Cut Building's Energy
Use, CE Dec. 83, p58-59.
Radial Source-Sink Flow in Stratified Ocean, Gerhard

H. Jirka, R. Peter Johnson and Frank E. Sargent, HY Dec. 81, p1631-1650.

Water Allocation Conflicts on the Canadian Prairies, Ian C. Goulter and Bruce Webb, WR Apr. 83, p147-164.

Engineering education \$1 Billion Needed for Computer Education, CE Jan. 83,

Particle 1979 ASCE Civil Engineering Education Conference, William E. Saul, El Apr. 83, p127-135.
 Bias or Handicaps? (Itr.), William D. Richardson, CE

Oct. 82, p22.

Computer Graphics Aided Instruction of Structural Engineering, Victor E. Saouma and Ronald G. Hoelzeman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p209-222.

Computer Graphics in a Finite Element Course, Mark S. Shephard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p197-208.

Construction Education: Past, Present, and Future, Clarkson H. Oglesby, CO Dec. 82, p605-616. Education and Experience (ltr.), Werner H. Gumpertz, CE June 83, p23.

Engineering School Plans High-Tech Center, CE July

83, p22. Engineering Shortage (ltr.), David D. Moore, CE Jan.

Engineering Students Perception of General Educational Requirements, Richard H. McCuen, El Oct. 83, p256-264.

Ethics and Engineering Education, Alastair Gunn and P. Aarne Vesiling, El Apr. 83, p143-149.

Faculty Shortage Continues: A Progress Report Notes Improvements, CE June 83, p18. First Call for Education Research Proposals, CE June

83, p64. High Drop Rate for Minority Engineering Freshmen,

CE Jan. 83, p12.

Integration of Computers into Eng. Mech. Curricula, Rudolph Szilard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr.,

ed., 1983), p186-196.

Managing Technological Innovation, CE Feb. 83, p26.

Positive Action (ltr.), Richard H. Gallagher, CE Jan. 83,

p24-25. Praxeology and Engineering, Ronald A. Chadderton,

Prakeology and Engineering, Konaid A. Chauderton, El July 83, p159-169.
Professional Engineers in Underdeveloped Countries, A. I. B. Pengiran Damit, El Jan. 83, p58-64.
Professional Schools: The Debate Continues, Joseph S. Ward, El Apr. 83, p136-142.
Professionalism and Ethics Education: More than Just a One-Credit Course, Bryant W. C. Wong, El Jan. 83, p21-26.

iality Education Jeopardized, CE Apr. 83, p36 Report Shows Engineering Enrollment Rise, CE Dec.

83, p10. p10.
 Selection of Computers for Education, Edmond T. Miller, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p223-232.
 Student Performance in Televised Lectures, Anthony Tarquin, Lionel Craver and Darrell Schroder, El July 83, p208-213.
 Teaching C. F. Students to Use Computers, J. H.

ing C. E. Students to Use Computers, J. H. Teach reaching C. E. Students to Use Computers, J. T. Appleton and E. T. Miller, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p172-181.

What Engineering Crisis, Glenn A. Carlson, CE Aug.

83, p22. Why Is Northeastern University's Student Chapter So Strong? Carol J. Lamb, CE July 83, p6.

Engineering firms
Management of Small and Medium Sized Civil Engineering Firms, C. Kenneth Giberson, El Jan. 83,

Market Research and the Engineering Firm, Howard Hoyt Hilton, CE Aug. 83, p55-57.

Engineering instruction
Integrating CAI in CE Courses at the USAF Academy, Dennis R. Topper, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p182-185.

Engineering mechanics

Conference on Constitutive Laws Draws World Specialists in Engineering Mechanics, CE April 83, p13. Design of Modal Control of Structures, Oren Vilnay, EM Oct. 81, p907-915.

Miter-Type Navigation Lock Gates, Ming Der Chern Michael K. Phang and Chin Hao Chang, ST Oct. 83,

p2235-2247.

Optimization of Connecting Shell, Boubacar Diallo and Fernand Ellyin, EM Feb. 83, p111-126. Recent Advances in Engineering Mechanics and Their

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp. Simplified Bending Theory for Wire Rope, George A. Costello and Gary J. Butson, EM April 82, p219-227. Stochastic Finite Element Analysis of Simple Beams, Erik Vanmarcke and Mircea Grigoriu, EM Oct. 83, p1203-1214.

Yield-Line Analysis of Slabs-on-Grade, Robert A Baumann and Frank E. Weisgerber, ST July 83,

p1553-1568.

Engineering profession
1982 Essay Contest Winners, CE Jan. 83, p68-69.
Announcing Civil Engineering Magazine's 1984 Essay
Contest: Do You Plan to Enter?, CE June 83, p66.
Are Engineers Happy People? Mir M. Ali, CE Aug. 83, p58-59.

Are We Seeing the Demise of Engineering as a Profession? C. R. Pennoni, CE Feb. 83, p28. An Essential Link to Understanding Public Policy Makers, Helen Bogolubov Desai, CE June 83, p104.

One Uses His Umbrella When It Rains, Kenneth A. Roe, El Apr. 82, p166-171.
Putting Professionalism in a Professional Career, Irving

B. Reed, El July 83, p242-247. Stop the World--I Want to Get Off!, John Huston, CE Dec. 81, p66-67.

Engineers

Are Engineers Happy People? Mir M. Ali, CE Aug. 83,

Engineering Directory, CE Jan. 83, p81.

Entrainment in a Thermohaline Double-Diffusive System, J. Atkinson and D. R. F. Harleman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p8-14.

Entropy
The Principle of Maximum Entropy for Parameter Estimation of Statistical Distributions, E. S. Oyegoke, J. O. Sonuga and G. A. Akpoji, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Updating Parameters with Fuzzy Entropies, Tai-Yan Kam and Colin B. Brown, EM Dec. 83, p1334-1434.

Envelope curves
Cylic Loading of Spirally Reinforced Concrete,
Surendra P. Shah, Apostolos Fafitis and Richard Arnold, ST July 83, p1695-1710.

Environmental compatibility
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Residential Area, Gary Goldstein, CE Dec. 83, p34-37.

The Future: Are C.E.'s Going to be Involved? J.

Charles Jennett, El July 83, p229-234.

Offshore Oil Operations and Environmental Values, Ursula Guerrieri, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1238-1260.

Environmental compatibility
Glenwood Canyon 1-70: Environmental Concern,
Ralph J. Trapani and Eric A. Beal, TE May 83, p403-413.

Environmental effects

Environmental Behavior Classification of Chemicals, N. E. Bell, D. S. Sklarew, D. C. Powell, C. J. English, Jr., Craig R. A. and L. C. Raniere, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p223-229.

Medine, et al, eds., 1983), p223-229.

Streamlining the Environmental Review Process for Projects in the Coastal Zone. Eric R. Sakowicz and Gregory W. Mohr, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2552-2570.

Thermal Impact Studies for French Coastal Nuclear Sites, Y. Coeffe, P. M. Clique and B. Manoha,

(Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2342-2356.

Environmental engineering 1983 National Conference on Environmental Engineering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.
Coastal Zone '83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp. Conference Features Water Quality Standards, CE June

83, p62 An Eighth Canon for the Practitioner, Roger E. Nelson, El Jan. 83, p53-57.

Emerging Energy/Environmental Trends and the En-gineer, Ronald D. Neufeld, ed. and Richard W. Goodwin, ed., 1983, 53pp.

Environmental Assessment in Ontario, Canada, Frederick A. Curtis, UP Nov. 81, p1-17.

Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, Barney P. Popkin and Carl L. Brassow, (Emerging Ener gy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al., eds., 1983), p32-35. Evaluation of Environmental Assessment Methods,

Robert Nichols and Eric Hyman, WR March 82,

p87-105

Land Treatment of Synfuel Organic Sludges, Edward C. Davis, Margaret R. Helton and Della S. Marshall, EE

Oct. 83, p1068-1081.

Landsat and Water Quality Model Verification, Donald Steven Graham and John M. Hill, TE Sept. 83,

p640-650.

Monitoring the Environment-McClellan-Kerr Waterway, Quinn G. Spann, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p20-30.

Rational Design of Evapotranspiration Bed, Joseph A.

Salvato, EE June 83, p646-660. Stabilization of Solid Waste in Landfills, Todd J.

Bookter and Robert K. Ham, EE Dec. 82, p1089-

Uranium in Water (ltr.), C. Richard Cothern and William L. Lappenbusch, CE Jan. 83, p21.

Environmental factors

Engineering and Planning Considerations for Boating Facilities Siting on the California Coast, Susan H. Anderson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2859-2865.

Environment in Coastal Engineering: Definitions and Examples, Cyril Galvin, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2264-2284. Roadway Design and the Impact on Safety, David K. Phillips, (The Role of the Civil Engineer in Highway

Safety, Martin E. Lipinski, ed., 1983), p23-32. Zeebrugge's Main Breakwaters, L. V. Van Damme,

(Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1745-1764.

Environmental Impact Simulation of Metal Transport in Streams, B. M. Chapman and D. R. Jones, (National Conference on Environmental Engineering, Allen Medine, et al, eds... 1983), p635-642.

Environmental impact statements
Engineer Roles in the Public Participation Process, Bruce M. Thomson, Timothy De Young and Constance J. Meadowcraft, El July 83, p214-222. NEPA: The Original Intent of the Law, Daniel A.

Dreyfus, El Oct. 83, p249-255.

The Public Be Damned—Grays Harbor Revisited, David E. Ortman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1694-1713.

Environmental impacts

Asbestos Control Program for Institutional Facilities, Mark D. Ryckman, DeVere W. Ryckman and Jeffrey L. Peters, EE Apr. 83, p275-288.

Biological Effects of Highway Fills, Gary D. Miller, Larry W. Canter and Joakim G. Laguros, (Geological Environment and Soil Properties, Raymond N. Yong, 1983), p374-386.

Coal-Transshipment Facilities: A Regulatory Guide, B. William Garland, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1041-1051.

ceedings of Ports 83, Kong Wong, ed., 1983), p227-233. Deepening Los Angeles Harbor, Daniel Muslin, (Pro-

Design Techniques to Mitigate Environmental Impact of Sand and Gravel Excavations in Alluvial Channels of the Western United States, Jeffrey M. Cooper, John R. Stratford, G. Thomas Davis and Robert H. Born, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p454.

Environmental Aspects of an Offshore Coal Terminal,

David Atkin and Andrew T. Zador, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p997-1014. Environmental Assessment of Campeau Shopping

Center, Fred A. Curtis, UP Sept. 83, p63-78 Environmental Impact Assessment: Highway Location, Frank R. Wilson and Donald L. Stonehouse, TE

Nov. 83, p759-768.

Mitigation: A Workable Tool for Coastal Development, Daniel D. Heagerty, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1052-1069.

Mitigation Measures Management Plan for Coastal Zones, Alan Zada and Michael Whaley, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1070-1081.

Multiple-Use Conflicts in a Growing Economy, An-

drew A. Dzurik, UP Sept. 83, p79-93.

Niagara River Ice Boom: Effects on Environment, Ralph R. Rumer, Jr., Wayne F. Bialas, Frank H. Quinn, Raymond A. Assel and David W. Gaskill, TC

Quinn, Raymond A. Asset and David W. Gaskill, IC Aug. 83, p105-116.
Ocean Outfall Design Treated Wastewater Discharges, Peter W. Failla, Charles M. Norkis, Francis Pandullo and Philip F. Healy, (Pipelines in Adverse Environ-ments II, Mark Pickell, ed., 1983), p563-572.
OCS Development in the Pacific Region: Status and

Issues, Ronald Ritschard and Sharon Maves, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2116-2136.

Planning for a Future Energy Terminal in Florida, William K. Fehring, Ray S. Hansen and Richard S. Nugent, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p287-298.

Planning Projects: A Formula for Control, William L. Metzger, (Improving Productivity, J. R. King Jr., ed., 1983), p4-10.

Protection of OCS Cultural and Biological Resources,

Mary Elaine Warhurst, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2108-2115.

Qualitative Models for Marine Environmental As-

sessment, Charles J. Puccia, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1-14.
Social and Environmental Impacts: Edens Project,

Henry M. Yamanaka, TE Sept. 83, p721-73.

Transnational Legal Issues and Fundy Tidal Power, Robert W. Rudolph and Peter F. Larsen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p817-828

Water Quality Management of Laguna de Bay, E. W. Lee and B. L. Adan, EE Aug. 83, p886-899.

Environmental issues 1983 National Conference on Environmental Engineering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.

Rigs to Reefs, Dana Larson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2845. This Congress Must Deal with the Environment, Frank

Musica, CE April 83, p114.

Water Requirements and Man-Induced Climate Change, George H. Hargreaves, IR Sept. 81, p247-

Environmental planning
Atchafalayai Management: Opportunities and Problems, Charles Fryling-IJr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2269-2278.
Contingency Planning Guidelines for Offshore Oil and Gas Development, Ann Hayward Rooney-Char, Jerry A. Galt, John T. E. Gilbert and John H. Robinson, (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983), v1352-1373. al, eds., 1983), p1352-1373.

Environmental Assessment in Ontario, Canada, Frederick A. Curtis, UP Nov. 81, p1-17.

Evaluation of Environmental Assessment Methods, Robert Nichols and Eric Hyman, WR March 82, p87-105

Is Integrated Environmental Management Feasible? Neil S. Grigg, El Apr. 83, p71-80

A Planning Approach to Critical Habitat Protection, Steven L. Pollock and Alan W. Avery, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p749-768. State Response to the Coastal Zone Management Act of 1972, Philip Berke and W. G. Roeseler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p206-225.

Who Says Science Can't Influence Decision Making? Eric D. Metz and Joy B. Zedler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p584-600.

Environmental Protection Agency EPA Audit Finds Fault with Grants Spending, CE Jan.

83, p8. EPA Head Charged with Contempt of Congress, CE

Feb. 83, p6. EPA's New Land Disposal Rules—A Closer Look, Allen Morrison, CE Jan. 83, p44-49.

Environmental Protection Agnecy Bill Provides Funds for EPA and HUD, CE Sept. 83, p10.

Environmental quality

Evaluation of Environmental Assessment Methods, Robert Nichols and Eric Hyman, WR March 82,

Monitoring the Environment—McClellan-Kerr Waterway, Quinn G. Spann, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p20-30.

New Directions in Restoration of Coastal Wetlands, Jens Sorensen and Susa Gates, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1427-1443. Risk, Information and the Development of Marine

Resources, Jon M. Conrad, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p179-193.

Environmental quality regulations
California and EPA Hazardous Waste Regulations,
Ronald M. Block and Robert M. Kennedy, El Jan.

Congressional Report Finds Toxic Waste Regs Lacking, CE June 83, p10. Environmental Rules Have Little Effect on Location of

Industry, CE Sept. 83, p14. Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, Barney P. Popkin and Carl L. Brassow, (Emerging Ener gy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al. eds., 1983), p32-35.

EPA's New Land Disposal Rules—A Closer Look,

Allen Morrison, CE Jan. 83, p44-49.

The Nature and Timing of the Next Wave of Government Regulation, Fran Phillips, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p8-10.

Ocean Discharge Rules Ready, CE Feb. 83, p6. Regulation and Offshore Oil and Gas Facilities, Arrie Bachrach, David Morycz, Suzanne Phinney and Stephen Kahane, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p36-39.
This Congress Must Deal with the Environment, Frank

Musica, CE April 83, p114.
Water Quality and Waste Disposal Regulatory Trends
Affecting Utilities, James W. Lingle, (Emerging
Energy Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p29-31.

Environmental surveys

Connecticut Embayments Study: A Basis for Allocating State and Local Resources for Coastal Management in the 1980's, James M. Sempere and Dana C. Rowan, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2251-2268.

Evaluation of Environmental Assessment Methods,

Robert Nichols and Eric Hyman, WR March 82,

Epitimnion
Mixing in the Epilimnion of the Dead Sea, Atul Salhotra, Donald R. F. Harleman and E. Adams, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p28.
Reaeration and Vertical Diffusion of Lake Oxygen,

William J. Snodgrass, EE Dec. 83, p1419-1423.

Acoustic Emission and Birefringence Behavior of Epoxies, H. Thomas Hahn and K. Hollmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p487-490.

Equal employment opportunity
Benefits and Costs of EEO Rules in Construction, Enno Koehn and Michael W. Jones, CO Dec. 83, p435-446.

Equilibrium equations
Behavior and Design of Reinforced and Composite Concrete Structures, Soliman I. Al-Noury and Wai F.

Chen, ST June 82, p1266-1284.

Stability Analysis of Flexible Anchored Bulkheads,
Boris S. Browzin, GT Aug. 83, p1113-1116.

Equilibrium methods
Equilibrium Method of Finite Strip for Plates with
Intermediate Supports, Zhao Zu-Wu and Ye Xiang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p523-526.

Flanged Reinforced Concrete Flexural Members, S. Somayaji and R. B. Patel, CE Dec. 83, p50-53.

Equilibrium state

Minimum Energy and Energy Dissipation Rate, Charles C. S. Song and Chin Ted Yang, HY May 82, p690-706.

Dynamic Analysis of Light Equipment in Structures: Modal Properties of the Combined System, Jerome L. Sackman, Armen Der Kiureghian and Bahram

Sackman, Armen Der Klureghian and Bahram Nour-Omid, EM Feb. 83, p73-89.

Dynamic Analysis of Light Equipment in Structures: Response to Stochastic Input, Armen Der Kiureghian, Jerome L. Sackman and Bahram Nour-Omid, EM Feb. 83, p90-110.

Earthwork Bid Estimating and Equipment Selection System2 (EBEES2), A. Fattah Chalabi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p74-87.

Mechanical Reliability and Plant Performance. Lewis A. Rossman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p561-568

Cost Control at the Project Level: Construction Management, Dewayne E. Hahn, (Improving Productivity, J. R. King Jr., ed., 1983), pl-3.

Direct Material Cost Tracking and Forecasting, Robert E. Templeton, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p236-245.

Economic Service Life of Building Construction Equipment, Shlomo Selinger, CO Dec. 83, p398-405.

Elastic Analysis of Laterally Loaded Frames, Donald J. Fraser, ST June 83, p1479-1489.

Erosion

Blufftop Setbacks—A Regulatory Impossibility? Richard J. McCarthy and L. Thomas Tobin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1600-1604

Cape Formation as a Cause of Erosion on Adjacent Shorelines, Kenneth Finkelstein, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p620-640. Cohesive Material Erosion by Unindirectional Current, J. William Kamphuis and Kevin R. Hall, HY Jan. 83,

p49-61

Coping with the Great Lakes, Flooding and Erosion, R. James Lloyd, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), p2679-2682. Diffusion of Bluff Wall Jets in Finite Depth Tailwater, Nallamuthu Rajaratnam and Joseph A. Humphries, HY Nov. 83, p1471-1486.

Erosion by Plane Wall Jets with Minimum Tailwater, Nallamuthu Rajaratnam and Roger K. Macdougall,

Nahamunin kajaratham and Roger R. Macdougal, HY July 83, p1061-1064.

Erosion by Submerged Circular Jets, Nallamuthu Rajaratham, HY Feb. 82, p262-267.

Erosion in Relation to Filter Design Criteria in Earth Dams, K. Arulanandan and Edward B. Perry, GT May 83, p682-698.

Erosion Resistance of Cohesive Soils, William E. Kelly and Ronald C. Gularte, HY Oct. 81, p1211-1224. Geotechnical Perspective on River Bank Instability, James V. Hamel, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p212-217. Headwall Influence on Scour at Culvert Outlets, Cesar

Mendoza, Steven R. Abt and James F. Ruff, HY July

83, p1056-1060.

The Impact of Irrigation on Pollutant Loads, J. R. DelVecchio, W. G. Knisel and V. A. Ferreira, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p113-123.

Incipient Motion of Cohesive Soils, M. Krishnamurthy, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p96-101.

Meander Bends of High Amplitude, Gary Parker, Panayiotis Diplas and Juichiro Akiyama, HY Oct. 83, p1323-1337

Movable-Bed Modeling Law for Coastal Dune Erosion, Steven A. Hughes, WW May 83, pl64-179. Multi-Dimensional Modeling of Sediment Transport, William H. McAnally, W. Anthony Thomas and Ranjan Ariathurai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p91-95.

Navigation and Shore Erosion in Coastal Waterways,

Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p207-211. Nonequilibrium Bedload Transport by Steady Flows, Robert G. Bell and Alex J. Sutherland, HY March 83, p351-367.

Porewater Pressures Due to Overburden Removal, Sivajogi D. Koppula, GT Aug. 83, p1099-1110. Probabilistic Design of Dunes, Jan van de Graaff, (Coastal Structures '83, J. R. Weggel, ed., 1983),

p820-831.

Rate Process Parameters for Erosion and Shear, William E. Kelly, Richard M. Heavers and Gregory Gardner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p102-106.
Rates of Coastal Bluff Retreat: Pismo Beach, Cali

fornia, Donald O. Asquith, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1195-1207.

Resuspension of Deposited Cohesive Sediment Beds, Ashish K. Mehta and Emmanuel Partheniades, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1569-2588.
River-Bend Bank Protection by Submerged Vanes, A.

Jacob Odgaard and John F. Kennedy, HY Aug. 83,

p1161-1173

Sediment Budget in Illinois Small Watersheds, Ming T. Lee, Paul Makowski and William Fitzpatrick, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p599. Sediment Yields in Coastal Southern California, Brent

D. Taylor, HY Jan. 83, p71-85. Slope Erosion Related to Soil Freezing and Thawing on Mt. Fuji, Masaharu Fukue, So Anma and Shigeyasu Okusa, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p405-432. Statistical Properties of Sediment Movement, Hin-Fatt Cheong and Hsieh-Wen Shen, HY Dec. 83, p1577-

1588.

Tidal Erosional Effects on a Bulkhead System, Ronald M. Noble, Wolfgang H. Roth and Uday K. Patil, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2204-2215.

Two-Dimensional Model of Mud Transport, Peter Cole and Gordon V. Miles, HY Jan. 83, pl-12. Wave Run-Up at Sea Dikes under Oblique Wave Approach, E. Tautenhain, S. Kohlhase and H. W. Partenscky, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p804-810.

Fresion control

An Aritifical Cobble Beach for Erosion Control, K. A Downie and H. Saaltink, (Coastal Structures '83, J. R. Weggel, ed., 1983), p846-859. Artificial Dune Serves Protection Purpose, CE Aug. 83,

Beach Response to Spurs and Groins, G. L. Anderson, C. S. Hardaway and J. R. Gunn, (Coastal Structures '83, J. R. Weggel, ed., 1983), p727-739.

Coastal Erosion—Protection Decisions, David M. Chapman, (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p1605-1606

The Corps of Engineers and Coastal Engineering, A 50 Year Retrospective, Jamie W. Moore and Dorothy P. Moore, (Coastal Zone '83, Orville T. Magoon, et al, , 1983), p1627-1639.

Dune Building and Vegetative Stabilization in a Sand Deficient Barrier Island Environment, I. A. Mendelssohn, J. W. Jordan, F. Talbot and C. J. Starkovich, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p601-619. Erosion Control Facilities—Mitigating Their Effect on Coastal Sediment Supplies, David M. Potter, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p2317-2327.

Erosion Control with Saltmarsh Vegetation, Hollis H. Allen and James W. Webb, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p735-748. Factors in Stability of Relocated Channels, James C.

Brice, HY Oct. 83, p1298-1313. New Buffalo Harbor Beach Nourishment, A. Kubek, (Coastal Structures '83, J. R. Weggel, ed., 1983), p832-845.

Nitrogen-Fixing Plants for Coastal Management, W. N. Tiffney, Jr. and D. E. Eveleigh, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p102-111. Performance of Granular Soil Covers on Canal Linings, Chester W. Jones, IR March 83, p1-12. Privately Funded Beach Vegetation Program, Kathryn Gooderham and Richard Workman, (Coastal Zone

'83, Orville T. Magoon, et al, eds., 1983), p897-911. La Push, Washington-Is There a Solution to the Beach Erosion Problem? Maurice L. Schwartz, (Coastal

Structures '83, J. R. Weggel, ed., 1983), p785-791. The Rate of Longshore Sediment Transport and Beach Erosion Control, Yoshito Tsuchiya, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1326-1334.

The Regulation of Shoreline Structures, William K. Allayaud, (Coastal Zone '83, Orville T. Magoon, et al.

eds., 1983), p1607-1616. The Role of Crisis in Coastal Erosion Management in New South Wales Australia, Barbara J. Langton and David M. Chapman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1640-1650. Short-Term Protection on a Rapidly Eroding Beach, L. D. Nakashima, J. M. McCluskey, P. A. Gares and N.

P. Psuty, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p682-696.

Error functions

Approximate Error Bounds for Simulated Hydro-graphs, David C. Garen and Stephen J. Burges, HY Nov. 81, p1519-1534.

Overpass Blends with Colorado Mountainside, CE Aug. 83, p15.

Probabilistic Estimating: Mathematics and Applica-tions, James E. Diekmann, CO Sept. 83, p297-308.

Cost Planning, Daniel W. Halpin, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et

al, eds., 1983), p1-5.
Earthwork Bid Estimating and Equipment Selection
System2 (EBEES2), A. Fattah Chalabi, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p74-87.
Simplified Estimating Methods for New Technologies,
John O. Milliken, Thomas C. Ponder, Jr., John E. Jonn U. Milliken, Thomas C. Ponder, Jr., John E. Spessard and Cynthia M. Harvey, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p30-44.

That's What I've Been Doing All Along But It Wasn't Organized, Aaron Rose, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p21-29.

Estuaries

Estuaries

Adsorption of Hydrophobic Pollutants in Estuaries,
John P. Connolly, Neal E. Armstrong and Richard
W. Miksad, EE Feb. 83, pl7-35.

An Alternative to the Peripheral Canal, Gerald T.
Orlop, WR March 82, pl23-141.

Artificial Breachings of Bot River Estuary, G. A. W.

Fromme, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2458-2473.

An Assessment of Salt Marsh Restoration and Impli-

cations for Coastal Zone Management, Margaret S. Race, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1473-1476. Bulk Water Flow to Power Marine Beacons, Andrew D.

Grant, EY Sept. 83, p142-151. Calibration and Verification of the Potomac Eutrophication Model, James J. Fitzpatrick, Stuart A. Freudberg, Kent Mountford, Michael Sullivan and Robert V. Thomann, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p196-203.

Characterization Tests for Cohesive Sediments, Ashish J. Mehta, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p79-84.
Choke Canyon Reservoir: Estuarine Impacts and Management, Nicholas A. Funicelli and Norman G. Benson, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p2866-2876.
Circulation of Two Multipass Estuaries in the Gulf of Mexico, Donald Steven Graham, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2595-2609

Cohesive Sediment Properties and Transport Processes, Ray B. Krone, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p66-78.

Distribution of Kepone in the James River Estuary, Donald J. O'Connor, John A. Mueller and Kevin J.

Donald J. O'Connor, John A. Mueller and Kevin J. Farley, EE Apr. 83, p396-413. Education Programming in the South Slough Estuarine Sanctuary, Delane A. Munson, (Cosstal Zone '83, Orville T. Magoon, et al, eds., 1983), p1840-1845. Effect of Gradients on Acoustic Velocity Meter, Henry

Effect of Gradients on Acoustic Velocity Meter, Henry T. Falvey, HY Nov. 83, p1441-1453.

The Effect of Sub-Tidal Variations on Long-Term Water Quality Trends, Tavit O. Najarian, M. Llewellyn Thatcher and Donald R. F. Harleman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p174-181.

Environments of Special Significance, Jonathan E. Amson, (Coastal Zone '83, Orville T. Magoon, et al, edg. 1983), p2741-2749.

eds., 1983), p2241-2249.

The Estuaries of Natal: A Method of Classification, J. E. Perry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p.2300-2307. Height Distribution of Estuarine Waves, V. Barthel,

(Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p136-153. Innovative Estuarine Restoration and Management

Scott McCreary and John Zentner, (Coastal Zone '83,

Orville T. Magoon, et al, eds., 1983), p2527-2551.
Kinetic Complexity in Estuary Eutrophication Models,
Robert B. Ambrose, Jr., (National Conference on
Environmental Engineering, Allen Medine, et al, eds., 1983), p182-189.

Landsat and Water Quality Model Verification, Donald Steven Graham and John M. Hill, TE Sept. 83,

p640-650.

Long-Term Salinity Calculations in Delaware Estuary, M. Llewellyn Thatcher and Donald R. F. Harleman,

EE Feb. 81, p11-27.

Managing Potomac Water Quality: Evolving Approaches, Austan S. Librach, Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N. Magill, EE June 82, p562-577.

On Environmental Approach to Protecting Estuaries from Salt Intrusion, Michael A. Rozengurt, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p2279-2293.

Oregon's New Coastal Research Initiative, Robert F. Tarrant and George W. Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1302-1309. Parallel Canal Design for Waterfront Development,

Frederick W. Morris, IV, Richard S. Tomasello, Damodar S. Airan and Nathan Putchat, EE Feb. 83, p206-218.

Pass Cavallo, Texas: Case Study of Tidal-Prism Capture, George H. Ward, Jr., WW Nov. 82, p513-525.

Proceedings of the Eighteenth Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp. Resource Management in the Suwannee River Estuar

Christopher J. Leadon, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1846-1864.

Sediment-Contaminant Transport Model, Yasuo Onishi, HY Sept. 81, p1089-1107.

Two-Dimensional Model of Mud Transport, Peter Cole and Gordon V. Miles, HY Jan. 83, p1-12.

Two-Dimensional Salt Intrusion Branching Model, Dong-Ping Wang, WW Feb. 83, p103-112. Two-dimensional Transient Behavior of Estuarine Salinity, Carl F. Cerco and Albert Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p375-379.

Unsteady Transport of Suspended Load at Small Concentrations, Pin-nam Lin, Juqing Huan and Xinquen Li, HY Jan. 83, p86-98. Use of Early Hydrographic Surveys in Studies of California Estuaries, Kent G. Dedrick, (Coastal Zone

Canifornia Estaintes, Rein C. Bedink, Codsul 29294-2316.
Water Quality and Institutional Considerations of Stormwater Detention Ponds in Estuarine Environments, Jonathan E. Jones, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1950-1981.

Altruism, Egoism, and Risk, Richard H. McCuen, El Apr. 81, p111-120.

Association between Personal and Professional Value Richard H. McCuen and Michael S. Pritchard, El Jan. 83, pl-9.

Construction Cartels, A. I. B. Pengiran Damit, El Jan. 83, p45-49.

An Eighth Canon for the Practitioner, Roger E. Nelson, El Jan. 83, p53-57.

Engineering Research: Potential for Fraud, Richard H. McCuen, El July 83, p185-194.

Ethics and Engineering Education, Alastair Gunn and P. Aarne Vesiling, El Apr. 83, p143-149. The Highway Engineer and Ethical Responsibility,

Gerald Donaldson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p200-204.

Professional Conduct, CE April 83, p72.

Professionalism and Ethics Education: More than Just a One-Credit Course, Bryant W. C. Wong, El Jan. 83, p21-25.

Europe

European Cooperation in Coastal Policy, Marios Camhis and Harry Coccossis, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1790-1802.

Eutrophication

Calibration and Verification of the Potomac Eutrophication Model, James J. Fitzpatrick, Stuart A. Freudberg, Kent Mountford, Michael Sullivan and Robert V. Thomann, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p196-203.

Consideration of Short Term Phosphorus Variability, Constantine E. Mericas and Ronald F. Malone, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p509-515.

Diffusivity-Based Flux of Phosphorus in Onondaga
Lake, Martin C. Wodka, Steven W. Effler, Charles T. Driscoll, Stephen D. Field and Steven P. Devan, EE Dec. 83, p1403-1415

Kinetic Complexity in Estuary Eutrophication Models, Robert B. Ambrose, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p182-189

Nutrient Loading Estimates for Lakes, Walter Rast and

G. Fred Lee, EE Apr. 83, 9502-517.
Performance of Some Empirical Phosphorus Models,
Dintie S. Mahamah and Surinder K. Bhagat, EE Aug. 82, p722-729.

Predicting Algal Stimulatory Properties of Wastewater, Neil M. Ram and Patricia E. Austin, EE Oct. 83,

p1099-1110.

Evaporation Drought Analysis and Soil Moisture Prediction,

Graeme M. Smart, IR June 83, p251-261.

Evaporation Reduction: Summary of Long-Term Tank
Studies, Keith R. Cooley, IR March 83, p89-98. Free and Forced Convection Effects on Evaporation,

Ben L. Sill, HY Sept. 83, p1216-1231. Gas-Film Coefficients for Streams, Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 83, p1111-1127.

Evapotranspiration
Application of Penman Equation Wind Function,
Richard H. Cuenca and Martin T. Nicholson, IR March 82, p13-23.

Comparison of Alfalfa Evapotranspiration Estimates, E. L. Johns, D. K. Frevert and R. W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p13-20.

Daily Trends in Soil Evaporation and Plant Transpiration for Irrigated Corn, Norman L. Klocke, Dale F. Heermann and Darell G. Watts, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p55-62.

Estimating Consumptive Use on a Statewide Basis, Richard G. Allen and Charles E. Brockway, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p79-89.

Estimating Potential Evapotranspiration, George H. Hargreaves and Zohrab A. Samani, IR Sept. 82, p225-230.

Estimation of FAO Evapotranspiration Coefficients,

Donald K. Frevert, Robert W. Hill and Bruce C.

Braaten, IR June 83, p265-270.

A Farmer Operated Irrigation Scheduling Procedure, Ron D. Bliesner and Robert W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p259-266.

Models of Alfalfa Yield and Evapotranspiration, Johannes C. Guitjens, IR Sept. 82, p212-222. Rational Design of Evapotranspiration Bed, Joseph A.

Salvato, EE June 83, p646-660. Soil Surface Evaporation and Water Table Depths, Sun F. Shih, IR Dec. 83, p366-376.

Total Water Management for Alfalfa, J. C. Guitjens, P.
-S. Tsui and J. M. Connor, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p63-70.

Weather Station Siting and Consumptive Use Esti-mates, Richard G. Allen, Charles E. Brockway and James L. Wright, WR Apr. 83, p134-136.

Design Techniques to Mitigate Environmental Impact of Sand and Gravel Excavations in Alluvial Channels of the Western United States, Jeffrey M. Cooper, John R. Stratford, G. Thomas Davis and Robert H. Born, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p454. Dirt and Steam, W. R. Carter, CE Nov. 83, p51-54.

Earthwork Bid Estimating and Equipment Selection System2 (EBEES2), A. Fattah Chalabi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p74-87.

Excavation Stabilized Using Rock Revetments, Dennis J. Garbis, GT March 83, p424-439.

Field Measurements of an Earth Support System, C. K. Shen, S. Bang, K. M. Romstad, L. Kulchin and J. S. DeNatale, GT Dec. 81, p1625-1642.
Geological Aspects of a Cutting Failure in Clay, Vincent Silvestri, Michel Soulié and Jean Lafleur, (Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p19-38. Ground Movement Analysis of Earth Support System, C. K. Shen, S. Bang and L. R. Herrman, GT April 81,

p1609-1624.

Ground Movements Caused by Braced Excavations, Thomas D. O'Rourke, GT Sept. 81, p1159-1178. OSHA, Excavation Support for Solid Rock, CE Feb. 83,

Porewater Pressures Due to Overburden Removal,

Sivajogi D. Koppula, GT Aug. 83, p1099-1110. Trench Excavation Effects on Adjacent Buried Pipes: Finite Element Study, Provakar Nath, GT Nov. 83, p1399-1415.

Underpinning with Chemical Grout, W. C. Pete Parish, Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Fracturing of Rock with Expansive Cement, Charles H. Dowding and Joseph F. Labuz, GT Oct. 82, p1288-

Expansive soils

Observations on Moisture Movement in a Natural Expansive Soil, Raymond N. Yong, Madan L. Sadana and Blair Gohl, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p200-220.

Potential Expansive Soils in Arabian Peninsula, Donald E. Slater, GT May 83, p744-746.

Experimental data

Advection and Dispersion in an Experimental Groundwater Plume, David L. Freyberg, Douglas M. Mackay and John A. Cherry, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p36-41.

Expert witness

The Construction Manager as Expert Witness, George Anthony Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p73-79.
The Engineer as an Expert Witness, Olin K. Dart, (The Role of the Civil Engineer in Highway Safety, Martin

E. Lipinski, ed., 1983), p103-105.

OCS, Frontier Basins, California, D. L. Zieglar, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p829-840.

Explosion effects

Damage Mechanisms in Tunnels Subjected to Explosive Loads, Duane A. Labreche, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p128-141.

Explosions

Probability of Failure from Abnormal Load, Bruce Ellingwood, E. V. Leyendecker and James T. P. Yao, ST Apr. 83, p875-890.

US Export of Construction Machinery Declines 37%, CE June 83, p8.

Fabric-forming

Fabric Forming for Underwater Concrete, Bruce A. Lamberton, (Coastal Structures '83, J. R. Weggel, ed., 1983), p619-631.

An Inelastic Constitutive Model for Fabrics, Norris Stubbs and Segun O. Thomas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p389-392.

Facilities

Facility Designs in the Arctic for the Kuparuk Pipeline System, Victor Manikian, Kenneth J. Nyman and U. Baskurt, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p84-107.

2-D Finite Element Analysis of Massive RC Structures, Niels Saabye Ottosen, ST Aug. 82, p1874-1893. Asymptotic Solution for Dam-Break Problem, Bruce Hunt, Hy Jan. 82, p115-126. Cold Weather Effects on Underground Pipeline Fail-

ures, G. Hossein Bahmanyar and Tuncer B. Edil, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p579-593.

Collapse of the Hyatt Regency Walkways—Implications, G. A. Leonards, CE Apr. 83, p6.

Collapse of the Kansas City Hyatt Regency Walkways, Edward O. Pfrang and Richard Marshall, CE July 82, p65-69

Data on Failure Trends to Be Offered, CE Oct. 83, p18. Estimating Failure Probabilities for California Levees, James M. Duncan and William N. Houston, GT Feb. 83, p260-268.

Finite Element Modeling of Concrete Failure in Shear, Kaspar William, Stein Sture and James Christensen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p770-773. Flexural Strength of Square Spread Footing, Da Hua

Jiang, ST Aug. 83, p1812-1819. Large Breakwater Toe Failures, A. W. Sam Smith and Angus D. Gordon, WW May 83, p253-255. Legalities of Construction Failure Covered, CE Sept.

83, p93. Overpass Collapse Blamed on Falsework, CE Apr. 83,

Piecewise Linear Yield Criteria in Invariant Form,

Robert M. Haythornthwaite, EM Aug. 83, p1016-1022 Preventing Cladding Failure, CE Oct. 83, p18.

Reducing Construction Failures and Their Legal Costs,

CE July 83, p14.

Repair to a Dolos Armoured Breakwater, C. W. Glodowski, D. L. Lajoie and Y. Ropars, (*Proceedings*) of Coastal Engineering 82, Vol. II, Billy L. Edge, ed.,

of Coastal Engineering 22, Vol. 11, Billy L. Edge, ed., 1983), p1733-1744.

Roofing Failures: A Look at Assembly Materials and Design Details, CE Oct. 83, p20.
Some Thoughts on the Future Design of Breakwaters, W. A. Price, (Coastal Structures '83, J. R. Weggel, ed., 1992).

1983), p1-2.
Structural Steel Failure, E. Chesson, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p156-173.

Exploration

System Reliability Bounding by Conditioning, Ove Ditlevsen, EM Oct. 82, p708-718. Two Possible Causes Cited for Ramp Collapse, CE Jan.

83, p8.

Failures, investigation

Failures-What Should ASCE's Role Be?, CE Apr. 83,

Fallures, investigations
Collapse of the Kansas City Hyatt Regency Walkways Edward O. Pfrang and Richard Marshall, CE July 82, Engineers and Attorneys Explore Structural Failures,

ČE Dec. 83, p64.

Evaluating Construction Failures, Harvey A. Kagan,

CO Dec. 83, p460-472.

Forensic Engineering: What Role for ASCE? Daniel W. Haines, CE July 83, p53-55.

Hyatt-Regency Walkway Collapse: Design Alternatives, George F. W. Hauck, ST May 83, p1226-1234. Landslides in Soils Overlying Franciscan Assemblage, Vincent N. Pascucci, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182.

A Market Pricing Approach to Fares, Michael Grovak, (Managing Urban Transportation with Limited Re-sources, Tom K. Ryden, ed., 1983), pr2-78. Transit Fare and Marketing Innovations to Increase

Revenue, Richard L. Oram, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p79-88.

Analytical Models for Steel Connections, R. M. Richard, D. A. Rabern, D. E. Hormby and G. C. Williams, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p128-155.
Bolted Wood-Joint Yield Model, Thomas E. McLain

and Surot Thangjitham, ST Aug. 83, p1820-1835. Coupled Moment-Axial Force Behavior in Bolted Joints, M. W. Wales and E. C. Rossow, ST May 83,

p1250-1266.

Formulas for Wood Shear Walls, John T. Easley, Mehdi Foomani and Robert H. Dodds, ST Nov. 82, p2460-2478.

Inelastic Behavior of Built-Up Timber Compression Members, S. K. Malhotra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p531-534.

Strength of Anchor Bolts in Grouted Concrete Masonry, Russell H. Brown and A. Rhett Whitlock, ST June

83, p1362-1374.

Analysis of Censored Fatigue Data, Margery A. Dean, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p919-922.

Equivalent Stationary Motion for Liquefaction Study, Jeen-Shang Lin, Robert V. Whitman and Erik H. Vanmarcke, GT Aug. 83, p1117-1121. Experimental and Analytical Investigation of Corrosion

Fatigue Behaviour of Monopod Tubular Joints, S. S. Gowda, M. Arockiasamy, D. B. Muggeridge and D. V. Reddy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

and Their Impact on Civil Engineering Fractice, W. F.
Chen, et al, eds., 1983), p593-596.
Fatigue and Model-Following Problems in Active
Control of Vibrating Structures, Wang Dian-Fu,
(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p327-330.

Fatigue Damage Assessment of Welded Structures, Mark D. Bowman and James T. P. Yao, (Proceedings

Mark D. Bowman and James 1. P. 13a, (Proceedings) of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p45-69. Fatigue Research at the University of Illinois, William J. Hall, Frederick V. Lawrence and James E. Stallmeyer, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al,

eds., 1983), p3-23.

A Helical Tape on Cylinder Subjected to Bending, William R. Spillers, Edward D. Eich, Allan N. Greenwood and Russell Eaton, EM Aug. 83, p1124-

Impact Factors for Fatigue Design, Charles G. Shilling, ST Sept. 82, p2034-2044.

Lateral-Distribution Factors for Fatigue Design, Laural-Distribution Factors for Fatigue Design, Charles G. Schilling, ST Sept. 82, p2015-2033. Probabilistic Fatigue Analysis of Freight Cars, J. Mohammadi and V. K. Garg, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), a015-018. p915-918.

Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus,

ed., 1983, 218pp. Reliability-Based Progressive Fatigue Collapse, Scott G. Martindale and Paul H. Wirsching, ST Aug. 83, p1792-1811.

Throgs Neck Bridge: Why Did Its Deck Deteriorate? Benjamin Forsyth and Frank L. Stahl, CE July 83,

p50-52.

Viscoplastic Fatigue Effects at Elevated Temperatures, James E. Keck and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p648-651.

Fatigue life

Analysis of Censored Fatigue Data, Margery A. Dean, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p919-922.

Effect of Peening on Fatigue Life of Welded Details, Hans Hausammann, John W. Fisher and Ben T. Yen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983),

p70-83.

Fracture and Fatigue Life Control Design of Bridges, Kohsuke Horikawa, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p801-804. Toward Fatigue-Proofing Cover Plate Ends, Pedro

Albrecht, Fatteh Wattar and Adnan Sahli, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p24-44.

Fatigue, materials

Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-

Fatigue strength

High-Strength Bolting: Recent Research and Design Practice, Peter C. Birkemoe, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p103-127.

New Chicago-Type Bascule Bridge, Henry Ecale and Tsin-Hwei Lu, ST Oct. 83, p2340-2354.

Toward Fatigue-Proofing Cover Plate Ends, Pedro Albrecht, Fatteh Wattar and Adnan Sahli, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p24-44.

Fatigue tests

Coalescence of Multiple Fatigue Cracks at a Notch, R. Perez and A. F. Grandt, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p997-1000.

Toward Fatigue-Proofing Cover Plate Ends, Pedro oward rangue-rrooting Cover Flate Elius, Fedro Albrecht, Fatteh Wattar and Adnan Sahli, (Pro-ceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p24-44.

Feasibility studies

Green Harbor River (MASS.) CZM Feasibility Studies, Raymond S. Niedowski and Michael L. Scheffler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1310-1329

The Impact of PSD Requirements for a Mione Mouth Coal Gasification Project, Theodore Reynolds Smith, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p1-4. New Computer Program Standardizes Feasibility Studies, CE June 83, p18.

Federal agencies

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eds., 1983), p1262-1277.
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Federal aid Coastal Zone Management and Energy Development: Who Pays the Price? Ronald Ritschard and Edward Kaplan, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p61-78. FHWA Cuts Red Tape for Road Projects, CE Aug. 83.

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Regionalism, the New Federalism, and Coastal Zone Management in the 1980's, David A. Veshosky, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p52-60.

Waterway User Taxes: Myths, Facts, and Real Sur-prises, Richard A. Wilson, El July 83, p235-241.

Federal control

Organization, Objectives, and Present Status of Fusrap and Umtrap, Stephen S. Hart, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p310-317.

Federal government

The Arms of Congress: Useful to Engineers, Helen Bogolubov Desai, CE Aug. 83, p96. Communication Link Between Congress and ASCE

Members Being Revived, CE Apr. 83, p8.
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Security? Eugene E. Dallaire, CE Jan. 83, p56-67. This Congress Must Deal with the Environment, Frank Musica, CE April 83, p114.

Federal laws

Are State Coastal Rights Being Eroded by the Federal Law of Accretion? Peter H. F. Graber, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p420-437.
Benefits and Costs of EEO Rules in Construction. Enno Koehn and Michael W. Jones, CO Dec. 83, p435-446.

The Nature and Timing of the Next Wave of Government Regulation, Fran Phillips, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p8-10.

Federal project policy After Seven Years--A New Water Authorization Law? Helen Bogolubov Desai, CE Oct. 83, p130.
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COFPAES Wants Change in DOD Acquisition Regs,

CE Feb. 83, p6.

COPFAES: An Enduring Acronym and an Effective Alliance, Frank Musica, CE Apr. 83, p116.

Evaluation of Completed Projects—Why Is It Impor-tant? Lloyd G. Antle, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p6-19. FHWA Cuts Red Tape for Road Projects, CE Aug. 83,

Reagan Signs Energy and Water Bill, CE Sept. 83

Federal role

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Managing Coastal Conflict: A Federal Permit Role?

Radford S. Hall, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p1136-1141. The Role of the FHWA in Highway Safety, E. Dean Carlson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p14-22. The Senate Considers Rebuilding America, Frank D.

Musica, CE Jan. 83, p124.

Federal-state cooperation
The California-National Ocean Survey Marine Boundary Program: 1973-1982, James N. Dowden, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2478-2486.

Consistency: Current Issues, Catherine A. McCord, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

(Coastal Zone 33, Orville 1: Magoon, et al, eds., 1983), p1289-1301.
Federal Consistency: Fears, Fantasies and Facts, Paul R. Stang, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p1262-1277.

Federal Consistency—Practice and Potential, Jack Archer, (Coastal Zone '83, Orville T. Magoon, et al.

eds., 1983), p1278-1288. Regional and National Ocean Management Coordination, Kenneth J. Havran and Jeffrey D. Wiese, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p145-162.

Safety Performance Goals, Nicholas D. Nedas, (The

Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p33-44. State/Federal Cooperative Programs in Weather Modification, Joseph A. Warburton, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p360-367.

Fedreal role

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Fender design

Dock Renovation in Corpus Christi-Aspects of Fendering, James A. Shiner and William F. Goldston, (Proceedings of Ports 83, Kong Wong, ed., 1983), p612-620.

Dennis V. Padron and Stanley M. White, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p163-177.

The Role of Marine Fenders for Repairing, Upgrading, and/or Rehabilitating Existing Facilities, Khoji Asayama and Toshitaka Ohtsuka, (Proceedings of Ports 83, Kong Wong, ed., 1983), p543-554.

Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309. U.S. Coast Guard Delineates Today's Fendering Crisis and Its Solutions, CE June 83, p20-21.

Removal of Organic Priority Pollutants by Oxidation-Coagulation, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, EE Feb. 83, p36-46.

Groundwater Studies in Texas and Oklahoma, James P. Law, Jr., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p267-274.

Increasing Irrigation Efficiencies and Their Effect on Nitrates in the Environment, William F. Ritter and Katherine A. Manger, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p417-426.

Fiber reinforced materials

Bridge Deck Overlay Combines Steel Fiber and Latex,

CE Apr. 83, p12. Couple Stress Model of Composite Material Moduli, Surinder K. Lakhanpal and Robert M. Hackett, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1040-1042.

Cylindrical Shells of Bimodulus Composite Materials,

Charles W. Bert and V. Sudharkar Reddy, EM Oct.

82, p675-688.

Fiber Reinforced Concrete, Kneeland A. Godfrey, Jr.,

CE Nov. 82, p44-50.

Mechanics of Fiber Reinforcement in Sand, Donald H. Gray and Harukazu Ohashi, GT March 83, p335-353.
Modeling Fractures in Fiber Reinforced Concrete, Antoine E. Naaman and Kitisak Visalvanich, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1307-1310.

Polymer Modified Glass Fiber Reinforced Cement (PGRC) as a Protective Buffer Coating over Thin Film Anti-Corrosion Coatings, P. A. White, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p238-258.

Properties of Concrete Subjected to Impact, Wimal Suaris and Surendra P. Shah, ST July 83, p1727-1741. Quarter Plane Problems for Fibre Reinforced Elastic Plates, A. P. S. Selvadurai and N. Moutafis, (Recent Advances in Engineering Mechanics and Their Impact

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p759-762. Statistical Properties of Hybrid Composites, D. G. Harlow, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p499-502.

Field investigations

Field Experience: Another Facet of Professional Development, David T. Biggs, CE Dec. 83, p54-55. Field Investigation of Beach Profile Changes and the Analysis Using Empirical Eigenfunctions, Hiroshi Hashimoto and Takaaki Uda, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1369-1384.

Field Study on Onshore-Offshore Sediment Transport, Masataro Hattori, (Proceedings of Coastal Engineering

82, Vol. 11, Billy L. Edge, ed., 1983), 922-940.
Floating Breakwater Prototype Test Program, Eric Nelson, Derald Christensen and A. David Schuldt, (Coastal Structures '83, J. R. Weggel, ed., 1983), p433-446.

The Nearshore Sediment Transport Study, Richard J. Seymour, WW Feb. 83, p79-85. Offshore Geotechnics: Trans-Panama Pipeline System,

H. R. Al-Alusi and G. R. Thiers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p650-667. Study on Sediment Transport in a Power Station Harbor Basin, Kohki Maruyama, Ryoichi Kajima, Akio Narihiro and Kosuke Kondo, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2357-2375.

A Three-Dimensional Model of Bering and Chukchi Sea, Shiao-Kung Liu and Jan J. Leendertse, (Pro-

Sea, Shado Vega Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p598-616.
Trans-Panama Pipeline System Geotechnical Studies, R. W. Heneks and G. R. Thiers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p668-681. Wave Run-Up Caused by Natural Storm Surge Waves,

Joachim Grune, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p785-803.

Field tests

Accuracy of Surface Samples from Gravel Bed Material, Richard D. Hey and Colin R. Thorne, HY June 83, p842-851.

Centimeter-Level Relative Positioning with GPS, Charles C. Counselman, III, Richard I. Abbot, Sergai A. Gourevitch, Robert W. King and Albert R. Paradis, SU Aug. 83, p81-89. Characterization Tests for Cohesive Sediments, Ashish

J. Mehta, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p79-84. Design of Rigid Shafts in Clay for Lateral Load, Harry M. Coyle and Mark W. Bierschwale, GT Sept. 83, p1147-1164.

Dispersion in Mountainous Natural Stream, Hasa Bajraktarevic-Dobran, EE June 82, p502-514.

Bajraktarevic-Dobran, EE June 82, p502-514.
Drilled-Shaft Integrity by Wave Propagation Method, Thomas M. Hearne, Jr., Kenneth H. Stokoe, II and Lyndon C. Reese, GT Oct. 81, p1327-1344.
Embankment Failure on Clay near Rio de Janeiro, J. A. Ramalho-Ortigao, Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479.
Fracturing of Rock with Expansive Cement, Charles H. Dowding and Joseph F. Labuz, GT Oct. 82, p1288-1200

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Large Diameter Double Underreamed Drilled Shafts, Ray E. Martin and Raymond A. DeStephen, GT

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Lissimine FF Fluorescent Dye, Dennis E. Ford and Kent W. Thornton, EE Aug. 83, p952-955.
Loading Mode Effects on Pavement Deflections, Mario

S. Hoffman, TE Sept. 83, p651-668.

Model-Prototype Comparison of Free Surface Vortices, George E. Hecker, HY Oct. 81, p1243-1259. Statistical Analysis of Timber Bridges, Baidar Bakht.

ST Aug. 83, p1761-1779.

Biological Effects of Highway Fills, Gary D. Miller, Larry W. Canter and Joakim G. Laguros, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p374-386.

cu., 1953), p3/4-380.
Construction of a Breach Closure in a Barrier Island,
M. J. McCarthy, E. J. Schmeltz and G. R. Lchan,
(Proceedings of Coastal Engineering 82, Vol. II, Billy
L. Edge, ed., 1983), p1219-1230.
Lightweight Fill Helps Albany Port Expand, K. M.
Childs, David L. Porter and Thomas A. Holm, CE

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Parking Garage Supported on Structural Fill, James J. Schnabel and Ray E. Martin, CO Sept. 83, p286-296. Pulverized Coal Ash as Structural Fill, Gerald A.

Leonards and Bruce Bailey, GT April 82, p517-531. Seismic Response of San Francisco Waterfront Fills, G. Wayne Clough and Jean-Lou Chameau, GT Apr. 83, p491-506.

Zilwaukee Bridge Fill Contains Toxic Wastes, CE Dec. 83, p10.

Filter fabric

Soil Improvement with Quicklime and Filter Fabric, Toyotoshi Yamanouchi, Norihiko Miura, Noboru Matsubayashi and Naozou Fukuda, GT July 82, p953-965

Synthetic Fabrics as Soil Filter: A Review, David J.

Hoare, GT Oct. 82, p1230-1245.

Design of Filters for Clay Cores of Dams, Peter H. Vaughan and Hermusia F. Soares, GT Jan. 82, p17-31.

Effect of Feed Characteristics on Filter Press Performance, R. Srinivasaraghavan, Thomas J. Sullivan and Carl W. Reh, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p715-723.

Erosion in Relation to Filter Design Criteria in Earth Dams, K. Arulanandan and Edward B. Perry, GT

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Filter Criteria for Geotextiles: Relevance and Use, Chris R. Lawson, GT Oct. 82, p1300-1317.
Microbial Activity in Activated Carbon Filters, John G.

den Blanken, EE April 82, p405-425.

Synthetic Fabrics as Soil Filter: A Review, David J. Hoare, GT Oct. 82, p1230-1245.

Filters, digital

Earthquake Motions Using a New Data Processing Scheme, S. Shyam Sunder and Betsy Schumacker, EM Dec. 82, p1313-1329.

Disinfection with Chlorine and Chlorine Dioxide, E. Marco Aieta and Paul V. Roberts, EE Aug. 83, p783-799.

p163-799.
Filter Plant Design for Asbestos Fiber Removal, Gary S. Logsdon, Glenn L. Evavold, James L. Patton and Jack Watkins, Jr., Ec Aug. 83, p900-914.
Rapid Sand Filtration of Giardia Cysts, Mohammed Al-Ani and David W. Hendricks, (National Conference on Environmental Engineering, Allen Medine, et

al, eds., 1983), p411-418. Slow Rate Sand Filtration for Providing Drinking Water for Small Communities, Lloyd A. Slezak, Ronald C. Sims and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p136-143. Synthetic Fabrics as Soil Filter: A Review, David J.

Hoare, GT Oct. 82, p1230-1245.

Upgrading Water Filtration Plants, Paul W. Prendiville, CE Oct. 83, p64-67.

Financial analysis

Risk Planning and Cost Avoidance by Financial Statement Analysis - The First Step, Carleton Coulter, Ill and Victor F. Spruill, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p6-20.

Financial incentive programs
Attitudes toward Productivity Pay Programs, Alexander
Laufer and Brian E. Moore, CO March 83, p89-101.

Application of Cost-Flow Forecasting Models, Shlomo Peer, CO June 82, p226-232. Planning Projects: A Formula for Control, William L.

Metzger, (Improving Productivity, J. R. King Jr., ed.,

1983), 4-410.

Risk Planning and Cost Avoidance by Financial Statement Analysis - The First Step, Carleton Coulter, III and Victor F. Spruill, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p6-20.

Financing
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Can the Private Sector Solve Water Investment Prob-lems? Neil S. Grig, CE April 83, p6.
Excerpts from: Rebuilding America—Financing Public

Works in the 1980s, Roger J. Vaughn, CE Sept. 83, p65-68.

Financing and Priority Setting of Highway Safety Projects, Kumares C. Sinha, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p148-161.

Financing Civil Works with User Fees, Chris Hendrick-son, CE Feb. 83, p70-72. Mall, CE June 83, p54-55. New York's MTA Raises \$8.5. Billion for Mass Transit,

Allen Morrison, CE July 83, p42-45.

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Privatization: A Panacea for Wastewater Treatment's Financial Woes, CE Nov. 83, p12.
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Reagan's Lopsided Energy R&D Policy: Peril to U.S. Security? Eugene E. Dalliaire, CE Jan. 83, p56-67. The Transportation Utility, Thomas E. Hays, (Man-

aging Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p64-71. Urban Highway Financing Mechanisms and Policies,

Gary E. Maring, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p54-63.

Value Engineering (ltr.), Howard Ellegant, CE Sept. 83,

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Water Experts Call for Innovative Financing, CE Feb. 83, p8

Finite difference method Computation of Particle Paths Using the Lagrangian Long Wave Equations, M. A. Savoie and J. van de Long wave Equations, M. A. Savoie and J. van de Kreeke, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p652-676. Iterative Analysis of Nonlinear Glass Plates, C. V. Girija Vallabhan, ST Feb. 83, p489-502. Modeling of Unsteady-Flow Water Temperatures, M. Hanil Chaudhry, David E. Cass and John E. Edinger,

Hami Chaudiry, David E. Cass and Joint E. Edingst, HY May 83, p657-669.

Optimized Wave Parameter in Fin. Diff. Equations, John Insprucker, III and Anthony N. Palazotto, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p436-453.

p430-433.

Tridimensional Numerical Model for Tidal and Wind Generated Flow, M. C. Burg, A. Warluzel and Y. Coeffe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p635-651.

Two-Dimensional Model of Mud Transport, Peter Cole

and Gordon V. Miles, HY Jan. 83, p1-12.

Finite difference methods

Difference Methods of Flow in Branch Channel, Zi-Cai Li, Ling-Jia Zhan and Hui-Li Wang, HY March 83, p424-446.

Modeling Circulation in Depth-Averaged Flow, Victor M. Ponce and Steven B. Yabusaki, HY Nov. 81, p1501-1518.

Finite differences

Finite Element Simulation of Overland Flow, Nathaniel Peters, George Blandford and Michael E. Meadows, (Advances in Irrigation and Drainage, John Borrelli,

(Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p466-475.

Irregular-Grid Finite-Difference Simulation of Lake Geneva Surge, Sebastian W. Bauer and Klaus D. Schmidt, HY Oct. 83, p1285-1297.

Wiggle Instabilities and the 2-D Preissmann Scheme, James R. Hill and David R. Basco, (Frontiers in James R. Hill and James R. Hill and David R. Basco, (Frontiers in James R. Hill and James R. H Hydraulic Engineering, Hung Tao Shen, ed., 1983), p337-342.

Finite element analysis
Adapting the ANSYS Program to an Attached Processor, John A. Swanson, Ph.D., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p554-558.

Adaptivity in P-Version Finite Element Analysis, Prodyot K. Basu and Alberto Peano, ST Oct. 83,

p2310-2324.

Aeration for Cavitation Protection of Uribante Spillway, H. W. Coleman, A. R. Simpson and L. M. de Garcia, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p438-443.

Analysis of Sheathed Wood-Stud Walls, Chung K.
Cheung and Rafik Y. Itani, (Proceedings of the Eighth

Cheung and Rail R. Han, (Proceedings of the Lighth Conference on Electronic Computation, James K. Nelson, Jr. ed., 1983), p683-696. Bearing Capacity of Strip Footing above Void, R. L. Baus and M. C. Wang, GT Jan. 83, p1-14. Comment on Orthotropic Models for Concrete and Geomaterials, Zdenek P. Bazant, EM June 83,

p849-865.

A Comparison of Finite Element J-Integral Evaluations for the Blunt Crack Model and the Sharp Crack Model, Y. C. Pan and J. M. Kennedy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p763-766.

Comprehensive Analysis Methodology for Wood Floors, Eugene M. Schaefer and M. Daniel Vander-

bilt, ST July 83, p1680-1694.

Design of Floor Slabs Coupling Shear Walls, Alexander Coull and Wong Yang Chee, ST Jan. 83, p109-125. Dynamic Response of Composite Plates by a 3-D Element, J. N. Reddy and N. S. Putcha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p503-506.

An Energy Method for Nonlinear Struct. Analysis, Rudolph Szilard, (Proceedings of the Eighth Confer-ence on Electronic Computation, James K. Nelson, Jr., ed., 1983), p390-403.

Example Cost of 3-D FEM for Underground Openings Charles W. Schwartz, Amr S. Azzouz and Herbert H. Einstein, GT Sept. 82, p1186-1191.

FEABOC: Finite Element Analysis of Bolt Connection, Natarajan Krishnamurthy, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p312-325. Finite Element Analysis Computation with Parallel VLSI, J. McGregor and M. Salama, (Proceedings of

the Eighth Conference on Electronic Computation,

the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p540-553.

Finite Element Analysis of a Taxiway Bridge, Alan R. Jefts, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p750-763.

Finite Element Analysis of Discontinuous Channel Flow, Nikoloso D. Katopodes, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p.1142-1145.

Finite Element Analysis of Reservoir Vibration, Jag-mohan Humar and Magdy Roufaiel, EM Feb. 83,

p215-230.

Finite Element Modeling of Crack Band Propagation, Zdenek P. Bazant and Luigi Cedolin, ST Jan. 83,

Finite Element Simulation of Tunneling over Subways, Jamshid Ghaboussi, William H. Hansmire, Harvey W. Parker and Kwang J. Kim, GT March 83,

Interactive Structural Software for Micros, J. M. Sims and H. R. Lundgren, (Proceedings of the Eighth and H. R. Lundgren, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p242-252. Modeling of a Large-Scale Vehicle Structure, H. A. Du

and C. T. Chon, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p326-336.

Modelling of In Situ Tests in Jointed Rocks, Md. O. Faruque and Md. M. Zaman, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p88-101.

A New Mixed-Hybrid Finite Element Model for Static and Dynamic Analysis of Thin Plates in Bending, Dimitris Karamanlidi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p238-242.

New Models for Rock Joints and Interfaces, Francois E. Heuze and Timothy G. Barbour, GT May 82,

p757-776.

New Role of Drainage Systems in Dam Stability, William W. Stelle, Dennis I. Rubin, H. Joseph Buhac and Paul H. Anderson, EY Sept. 83, p181-191.

Nonlinear Elastic Frame Analysis by Finite Element, Robert K. Wen and Jalil Rahimzadeh, ST Aug. 83, p1952-1971.

Nonlinear Finite Element Analysis of Steel Frames Mohamed H. El-Zanaty and David W. Murray, ST Feb. 83, p353-368. Nonlinear Finite Element Analysis of Clamped Arches

Philip R. Calhoun and Donald A. DaDeppo, ST March 83, p599-612.

Parallel Solution of Finite Element Equations, M. Salama, S. Utku and R. Melosh, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p526-539.

Pile Cap Analysis, Joseph E. Bowles, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p102-113.
Seepage Around Horizontal Drains in Hill Slopes, Edmund C. C. Choi, HY Oct. 83, p1363-1368. Some Aspects of Adaptive Finite Element Modelling, A. D. Miller, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p809. Stochastic Finite Element Analysis of Simple Beams, Erik Vanmarcke and Mircea Grigoriu, EM Oct. 83, p1203-1214.

Strength of Double-Row Bolted Web Connections, James M. Ricles and Joseph A. Yura, ST Jan. 83,

p126-142.

A Stress-Strain Analysis of Rubber and Steel Compos-ite Bearings, Joel K. Moore and Leonard R Herrmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p734-737.

Study of Numerical Efficiency on Nonlinear Analysis

of Thin Shells, K. Sawamiphakdi and T. Y. Chang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p668-678. Study of Reinforced Concrete Bond Specimens by FEM, Song Qi-gen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p710-713. Wood Floors with Nonlinear Nail Stiffness, Dan L.

Wheat, M. Daniel Vanderbilt and James R. Good-

man, ST May 83, p1290-1302.

Finite element method

An Adaptive FEM for Convection-Diffusion Problems, W. G. Szymczak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p814-817. Analysis of Frozen Sand Beams, Robert K. Wen, Sweanum Soo and Orlando B. Andersland, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p790-793. Circular Voided Concrete Slab Stiffnesses, G. Elliott

and L. A. Clark, ST Nov. 82, p2379-2393. Comparative Analyses of Rigid Pavements, Yu T.

Chou, TE Sept. 83, p669-688. Comparison of FEM for Nearly Incompressible Solids, David A. Wagner and Michael G. Katona, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p459-462.

Computer Graphics in a Finite Element Course, Mark S. Shephard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p197-208.

Continuous Moving Boundary Simulation-Verification of Finite Element Technique, Daniel R. Lynch, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p330.

Control of Structures Subjected to Seismic Excitation. Leonard Meirovitch and Lawrence M. Silverberg,

EM Apr. 83, p604-618.

Creep Crack Growth in a Ring Specimen, Michael H. Bohun and Theodore Nicholas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p644-647.

Design Aspects of Adaptive Finite Element Codes, D. W. Wang, I. N. Katz and M. Z. Qian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p821-824.

Equilibrium Method of Finite Strip for Plates with Intermediate Supports, Zhao Zu-Wu and Ye Xiang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p523-526. Extrapolation Techniques for Buckling Loads, Mario

M. Attard, ST Apr. 83, p926-935.

Finite Element Analysis for Fracture Toughness Testing, Michael P. Cleary and Brian L. Miller, EM June 83, p741-755.

Finite Element Analysis in Design of Floor Systems, Metro M. Hrabok and Terry M. Hrudey, ST Apr. 83, p909-925

Finite Element Analysis of Jointed Concrete Pavements, Yang H. Huang and Xue-Jun Deng, TE Sept. 83, p689-705.

Finite Element Method for Interface Problems, Santosh K. Arya and Gilbert A. Hegemier, ST Feb. 82, p327-342

p321-342.

A Finite Element Method for the Shallow Water Equations, A. Hauguel, G. Labadie and B. Latteux, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p617-634.

Finite Element Model to Determine K. Kuo-Kuang Hu, Chen-Ming J. Huang and Stuart E. Swartz, EM Aug. 83, p1103-1113.

Finite Element Modeling of Concrete Failure in Shear, Kaspar William, Stein Sture and James Christensen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p770-773.

Finite Element Simulation of Overland Flow, Nathaniel Peters, George Blandford and Michael E. Meadows, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p466-475.

Finite Segment Method for Biaxially Loaded RC Columns, Soliman I. Al-Noury and Wai F. Chen, ST

April 82, p780-799.

Free Vibration Analysis of Cyclically Symmetric Structures Using Finite Element Techniques, Shen-Yu Lien, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p480-489.

Harmonic Finite Element Model of Tidal Circulation for Small Bays, J. J. Westerink, J. J. Connor and K. D. Stolzenbach, (Frontiers in Hydraulic Engineering,

D. Stolzenoach, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p170-175. Highly Conforming High Order Finite Elements, D. A. Dunavant and W. O. McCarron, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 250-213. p810-813.

Hybrid/Mixed Methods in Fluid Mechanics, Chien-Tung Yang and Satya N. Aduri, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p825.

stabil. of Thin Walled Bars, Terence M. Roberts and Zaven G. Azizian, EM June 83, p781-794. Lateral Load Effect on Strength of Steel Arch Bridge Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449. New Chicago-Type Bascule Bridge, Henry Ecale and Tsin-Hwei Lu, ST Oct. 83, p2340-2354.

Numerical Studies in Homogenization of Periodic unterical studies in Homogenization of Periodic Composites, Akhilesh Maewal, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p507-510.

On the Coupling of Finite Element and Boundary Element Methods, J. Bielak, R. C. MacCamy and D. S. McGhee, (Recent Advances in Engineering Meanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al, eds., 1983), p150-153.

Penalty Function for 2-D Hydrodynamic Model, Anish
N. Puri and Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p356-361. Ribbed Plates on Non-Linear Foundations, Chao Shih

Li and Tseng Huang, (Recent Advances in Engineering Mechanics and Their Impacts on Civil Engineering

Practice, W. F. Chen, et al, eds., 1983), p431-434. Shape Optimization of a Solid of Revolution, Young W. Chun and Edward J. Haug, EM Feb. 83, p30-46. Shear Effect in Beam Stiffness Matrix, Gelu Onu, ST

 Shear Effect in Beam Stiffness Matrix, Gelu Onu, ST Sept. 83, p2216-2221.
 Stress and Seepage Analysis of Earth Dams, G. C. Li and C. S. Desai, GT July 83, p946-960.
 Study on Vibration of Framed Machine Foundation, Zhang Daming, Ma Zesheng, Lin Weisong, Wu Zhangzhu and Wei Yuan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p510-523. p519-522.

Temperature Variations in Concrete Bridges, Mamdouh M. Elbadry and Amin Ghali, ST Oct. 83, p2355-2374.
Unsteady Seepage Analysis of Wallace Dam, Mustafa M. Aral and Morris L. Maslia, HY June 83,

p809-826.
Wind-Buckling Approach for R/C Cooling Towers,

Wolfgang Zerna, Ihsan Mungan and Walter Steffen, EM June 83, p836-848.

Finite elements

Calculation of Intake Approach Flow Circulation with Two-Dimensional Finite Elements Model, Domi-nique N. Brocard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p380-385.

Calibration Verification and Application of a Two-Dimensional Flow Model, D. Michael Gee, (Frontiers

in Hydraulic Engineering, Hung Tao Shen, ed., 1983).

p363-368.

Element-by-Element Implicit Algorithms for Heat Conduction, Thomas J. R. Hughes, Itzhak Levit and James Winget, EM Apr. 83, p576-585.

The Finite Element Elastic Beam-Column, Joao A.

Teixeira de Freitas and David Lloyd Smith, EM Oct.

83, p1247-1269.

Finite Element Solutions of Deep Beams, Mohammed M. Ettouney and Walter Schmidt, ST July 83. p1569-1584.

Lateral Dynamic Response of Constrained-Head Piles, Alvaro Velez, George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081.

Nonlinear Analysis of Prestressed Concrete Slabs, Johannes Van Greunen and Alexander C. Scordelis, ST July 83, p1742-1760.

Shape Modification Using Sensitivity Information, Theodore J. Weidner and Marks Shephard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p144-154.

hear/Membrane Locking in Curved Finite Elements, Henryk Stolarski and Ted Belytschko, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p830-833.

Finite strip method Equilibrium Method of Finite Strip for Plates with Intermediate Supports, Zhao Zu-Wu and Ye Xiang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p523-526.

Numerical Solutions for Biot's Consolidation of Layered Soil, Y. K. Cheung and L. G. Tham, EM June

83, p669-679.

esign Principles for Petroleum Pier Fire Safety, C. R. Willner and W. G. Yeich, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p22-29.

Fire resistance

Design and Construction of Fire-Safe Structures, CE Feb. 83, p12.

Fish and wildlife

Energy-Related Use Conflicts for the Columbia River Estuary, John Garcia, Gary Ahlborn, Lincoln Loehr, Klaus Richter, Frank Westerlund and Jeremy Pratt, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1763-1780.

Heavy Metal Distribution and Interactions in the White River Ecosystem, Allen J. Medine, Vincent A. Lamarra and John G. Carter, (National Conference on Emvironmental Engineering, Allen Medine, et al, eds.,

1983), p867-877.

Fish conservation Evaluation of the Effects of Landfill Leachate on Brook Trout by Bioassay, Linfield C. Brown, Timothy W. Drew and N. Bruce Hanes, (National Conference on Emvironmental Engineering, Allen Medine, et al, eds., 1983), p789-796.

Simulation and Analysis of Cooling Lake Ecosystems: Impacts of Power Plant Operations, D. B. Porcella, G. L. Bowie, T. M. Grieb and R. K. Kawaratani, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p797-804.

Designing and Installing an Interactive Management System for the Southwest Fisheries Center, David J.
Mackett, Alexander N. Christakis and Marjorie P.
Christakis, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p518-537.

Fish protection

Sunlight and Aeration Effects on Chlorine Residuals, Richard F. McCormick and Dean D. Hatfield, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p600-606.

Fish reproduction

Human Factors Affecting Rocky Intertidal Fishes, John R. Moring, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1572-1585.

Fish screens

Fish Diversion Efficiency of a Traveling Screen at Hydraulic Turbines, Walter C. Mih, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p165-169.

Fisheries

Avoiding OCS-Fisheries Resource Conflicts, Joseph R. Williams, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p791-798.

Chesapeake Bay Conflicts and Fishery Management,

N. Bartlett Theberge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p482-495.

Designing and Installing an Interactive Management

System for the Southwest Fisheries Center, David J. Mackett, Alexander N. Christakis and Marjorie P. Christakis, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p518-537.
Don't Get Crude on Georges Bank, Barry R. Clark, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), e341 640.

1983), p841-849.

Evolution of a Small Fishing Harbor: Bodega Bay, California, Phillip Cline and Norman Swenson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p516-517.

A Marine Perspective: Southern California (U.S.) and Baja California (Mexico) (M-29), Carlos Montero, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p538-547.

The Question of Mitigation, Ronald D. Gatton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1105-1119.

San Diego Bay Area Fisheries Management, Michael V. Needham, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p496-515.

A Marine Perspective: Southern California (U.S.) and Baja California (Mexico) (M-29), Carlos Montero, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p538-547.

Modernization of Alaska's Fishing Harbors, Orson P. Smith, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p599-611.

Urban Shore-Based Fishing: A Health Hazard? Charles A. Heatwole and Niels C. West, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2587-2598.

Fishing rights

Chesapeake Bay Conflicts and Fishery Management, N. Bartlett Theberge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p482-495.

Fish Diversion Efficiency of a Traveling Screen at Hydraulic Turbines, Walter C. Mih, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p165-169.

Fixed film process
Rotating Biological Contactor System Design, Yeun C. Wu and Ed D. Smith, EE June 82, p578-588.

Modeling Leachates at Landfill Boundaries, Haydar Erdogan and Ronald D. Neufeld, EE Oct. 83,

p1181-1194.

User-Oriented Batch Reactor Solutions to the Homogeneous Surface Diffusion Model, David W. Hand, John C. Crittenden and William E. Thacker, EE Feb. 83, p82-101.

Fixed-film process

Fixed-Film Anaerobic Digestion, R. Ryan Dupont and Ross E. Mckinney, (National Conference on Envi-

ronmental Engineering, Allen Medine, et al, eds., 1983), p264-271.

Kinetics of the Rotating Biological Contactor, Khalil Z. Atasi and Jack A. Borchardt, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p255-263.

Flanged Reinforced Concrete Flexural Members, S. Somayaji and R. B. Patel, CE Dec. 83, p50-53. Inelastic Buckling of Short Plate Stiffeners in Beam-

Column Connections, H. A. El-Ghazaly and A. N. Sherbourne, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1095-1100.

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038.

Flexible connections
Elastic Stability of Flexibly Connected Frames, Michael H. Ackroyd and Kurt H. Gerstle, ST Jan. 83, p241-245.

Flexible pavements
Assess Subgrade Rutting Potential by Stress Factor, Yu

T. Chu, TE May 83, p462-470. Equivalent Granular Base Moduli: Prediction, Brian E. Smith and Matthew W. Witczak, TE Nov. 81, p635-652.

Resilient Characteristics of Brazilian Soils, Jacques de Medina and Ernesto S. Preussler, GT May 82, p697-712.

Flexible pipes
Junction Stresses in Buried Jointed Pipelines, A. C. Singhal and Chian-Lee Meng, TE May 83, p450-461.

A Soil Structure Interaction Problem for a Group of Connected Flexible Pipelines, A. P. S. Selvadurai,

(Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p199-211.

Stiff Soils—An Adverse Environment for Stiffness Pipes, K. K. Kienow and R. C. Prevost, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p431-455.

Flexural strength Computer-Simulated Flexural Tests of Partially Prestressed Concrete Sections, M. Z. Cohn and M.

Bartlett, ST Dec. 82, p2747-2765.

In-Place Flexural Strength Evaluation of Concrete,
Muzaffer Yener, Wai F. Chen and Alvin Nishikawa, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1032-1035. Optimal Strength and Stiffness Design of Beams, S.

Kanagasundaram and Bhushan L. Karihaloo, ST Jan. 83, p221-237.

Floating breakwater

Ship Deployable Floating Breakwater, P. A. Leach, W. G. McDougal and C. K. Sollitt, (Coastal Structures '83, J. R. Weggel, ed., 1983), p404-416.

Floating breakwaters

Floating Breakwater Prototype Test Program, Eric Nelson, Derald Christensen and A. David Schuldt, (Coastal Structures '83, J. R. Weggel, ed., 1983), p433-446.

Non-Linear Wave Forces on Floating Breakwaters, C. T. Niwinski and M. De St. Q. Isaacson, (Proceeding of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2009-2025.

Sloping Float Breakwater Model Study, Robert D. Carver and D. Donald Davidson, (Coastal Structures

'83, J. R. Weggel, ed., 1983), p17-32.

Floating ice First-Generation Model of Ice Deterioration, George D. Ashton, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p273-278. Hydraulic Resistance of River Ice, Hung Tao Shen,

(Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p224-229.

Floating structures

Design of Submerged and Floating Structures, Peter G.

Noble, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983).

p186-203.

Experiments on Active Control of Floating Platforms, Norris Stubbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p577-580.

Fixed and Floating Axisymmetric Structures in Waves, Michael de St. Q. Isaacson, WW May 82, p180-199.

Military Loads Vehicles Onto Platform at Sea, CE July

83, p15-16.

Modernization and Upgrading of the Dock and Associated Facilities at Iquitos, Peru, R. G. Tanner, G. P. Tsinker and R. Delgado Sayan, (Proceedings of Ports 83, Kong Wong, ed., 1983), p621-634.

Floating tire breakwaters Floating Tire Breakwater Design Comparison, Craig T.

Bishop, WW Aug. 82, p421-426.

Floating Tyre Breakwaters—A Case History, Robert C. McGregor and Colin H. G. Gilbert, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1992-2008.

Flocculants

Forces Acting on Floc and Strength of Floc, Tomonori Matsuo and Hideaki Unno, EE June 81, p527-545.

Design of Filters for Clay Cores of Dams, Peter H. Vaughan and Hermusia F. Soares, GT Jan. 82,

Recovery of Wastewater Treatment Chemicals from Fly Ash, John W. Smith and Janet Condra, EE Oct. 83,

Flocculation

Chemical Clarification of Dredged Material, Paul R. Schroeder and F. Douglas Shields, Jr., EE Apr. 83,

Control of Activated Sludge Settling in an SBR, JoAnn Silverstein and E. D. Schroeder, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p238-246.

Forces Acting on Floc and Strength of Floc, Tomonori Matsuo and Hideaki Unno, EE June 81, p527-545. Is Velocity Gradient a Valid Turbulent Flocculation Parameter? John L. Cleasby and Simon W. Freese,

1983), p125-135.

Particles in Thickening: Mathematical Model, Desmond F. Lawler, Philip C. Singer and Charles R.

O'Melia, EE Apr. 83, p332-349.

Accomplishments and Impacts of Reservoirs, Gordon G. Green, ed. and Earl E. Eiker, ed., 1983, 235pp. Accuracy Criteria in Diffusion Routing, Victor Miguel Ponce and Fred D. Theurer, HY June 82, p747-757. Arroyo Engineering in an Urban Environment, Richard J. Heggen, UP May 83, p1-6.

Central and Southern Florida Project, A. G. Holler and O. C. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p152-165.

Economic Feasibility of Flood Control Improvements, Ralph A. Wurbs, WR Jan. 83, p29-47.

C. Watson and Michael D. Harvey, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Interactive Nonstructural Flood-Control Planning, David T. Ford, WR Oct. 81, p351-363.

Mt. St. Helens Impact on Cowlitz River Sedimentation, Bobby J. Brown and W. Anthony Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p147-152.

Pumping Eases Pressure on Utah Dam, CE Sept. 83,

p18.

Reevaluating Six Mississippi River Headwaters Lakes, Carl W. Stephan, (Accomplishments and Impacts of

Reservoirs, Gordon Green, et al, eds., 1983), p191-202. Regulation of Missouri River Main Stem Reservoirs, Duane J. Sveum and George A. Patenode, (Accom-Duane J. Sveum and George A. Fatenoue, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p94-108.
Risk Evaluation in Reservoir Operations, Walter O. Wunderlich and James E. Giles, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p480-485

River Hull Tidal Surge Barrier Design and Operation, Paul Parkin and John H. Fleming, (Coastal Structures '83, J. R. Weggel, ed., 1983), p562-572.

SANTA ANA: Flood Control Planning in the Coastal

Zone, Beverly B. Getzen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1734-1742.

Subrogation: Enforcing Flood Plain Management, Robert D. Sokolove, El July 83, p195-207.

Flood damage
NFIP—Individual Risk Rating for Coastal Areas,
Francis V. Reilly, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p263-12649.
Optimum Floor Elevation in Storm Tide Flood Zones,
Courtland A. Collier and James R. Williams, Jr., WW

Feb. 83, p41-53. Urban Headwater Flooding Damage Potential, Larr T. Lee and Thomas Essex, HY Apr. 83, p519-535.

Flood forecasting

Automated Community Flood Warning Systems, David C. Curtis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p608. Conservatism of Probable Maximum Flood Estimates,

Bi-Huei Wang and Russell W. Revell, HY March 83,

p400-408

Design Rainfall Patterns for the State of Wyoming, Patrick T. Tyrrell, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p494-502. Gumbel's Extreme Value I Distribution: A New Look

Dennis P. Lettenmaier and Stephen J. Burges, HY April 82, p502-514.

Realistic Assessment of Maximum Flood Potentials. Donald W. Newton, HY June 83, p905-918.

Flood frequency Carrying Capacity of Flood Plains, Nani G. Bhowmik Partiesia HV March 82, p443-452. and Misganaw Demissie, HY March 82, p443-452.
Confidence Intervals for Design Events, Jery R. Stedinger, HY Jan. 83, p13-27.
Estimating Flood Frequencies at Ungaged Locations, Donald W. Newton and Janet C. Herrin, (Frontiers in

Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p528-533.

Estimating Log Pearson Parameters by Mixed Mo-ments, Donthamsetti Veerabhadra Rao, HY Aug. 83, p1118-1132.

Fitting Procedures for the Log-Boughton Distribution, Walter C. Boughton and Edward D. Shirley, HY Apr.

83, p579-589.

Frequency of Northeaster Tides in Coastal New York, Stergios A. Dendrou, Charles I. Moore and Vance A. Myers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p182-187.
Gumbel's Extreme Value I Distribution: A New Look,
Dennis P. Lettenmaier and Stephen J. Burges, HY

Dennis F. Lettenmaer and Stephen J. Durges, 111
April 82, p502-514.

Joint Probability Method in Barrier Island Systems,
Richard A. Schmalz, Jr., WW May 83, p222-235.

Magnitude and Frequency of Urban Floods in the
United States, V. B. Sauer, W. O. Thomas, Jr., V. A.

Stricker and K. V. Wilson, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p534. Storm Surge Modeling in Coastal Flood Plain Management, Y. J. Tsai, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2005-2019.

Three-Parameter Probability Distribution of Best

Hydrologic Bounds, Donthamsetti Veerabhadra Rao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p486-491.

Flood irrigation

Nonpoint Contributions from Subsurface Drains, J. C. Guitjens and P. -S. Tsui, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p320-327.

Tennessee Valley Extreme Wind Speed Climatology, Donald W. Newton, M. Lawrence Nicodemus and Nathaniel B. Guttman, HY Aug. 83, p1093-1107.

Flood plain insurance Coastal Barrier Resources Act and The National Flood Insurance Program, Frank Y. Tsai, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2020-2023.

Floodplain Delineation in Ice Jam Prone Regions, Richard M. Vogel and Jery R. Stedinger, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p261-266.

Methodology for Calculating Wave Heights Associated with Storm Surges Utilized by the National Flood Insurance Program, William G. Fry and Perry E. Rhodes, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1991-2004. Subrogation: Enforcing Flood Plain Management, Robert D. Sokolove, EI July 83, p195-207.

Flood plains

Carrying Capacity of Flood Plains, Nani G. Bhowmik and Misganaw Demissie, HY March 82, p443-452. Channel Migration and Incision on the Beatton River, Gerald C. Nanson and Edward J. Hickin, HY March 83, p327-337.

Computer Modelling of Ice Jams, E. Allen Churchill, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p267-272.

Discharge Assessment in Compound Channel Flow, Peter R. Wormleaton, John Allen and Panos Hadjipanos, HY Sept. 82, p975-994.

Flood Plain and Main Channel Flow Interaction, Donald W. Knight and John D. Demetriou, HY Aug.

83, p1073-1092

Flood Plains Management and the Coastal Zone, Jamie W. Moore and Dorothy P. Moore, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2664-2678.

Floodplain Delineation in Ice Jam Prone Regions, Richard M. Vogel and Jery R. Stedinger, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p261-266.

Influence of Northern Pipelines on River Crossing Design, E. K. Yaremko and R. H. Cooper, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p49-63.

Prediction of Flow in Channels with Flood Plains, A. O. Demuren, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1212-1215.

Flood routing

Accuracy Criteria in Diffusion Routing, Victor Miguel Ponce and Fred D. Theurer, HY June 82, p747-757. Computational Extensions to Implicit Routing Models, Danny L. Fread, (Frontiers in Hydraulic Engineering,

Danny L. Fread, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p343-348.

Direct Computation of Dam-Break Waves, Michael Amein, J. C. Li and T. S. Wu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p331-336.

Flood Routing on a Small Computer, Richard J. Heggen, CE Apr. 83, p63-66.

Furrow Irrigation Runoff: A Linear Systems Approach, Subramaniaiyer Sritharan, Wayne Clyma and Everett V. Richardson, IR March 83, p29-42.

Unified Theory for Flood and Pollution Routing, Antonis D. Koussis, HY Dec. 83, p1652-1664.

Asymptotic Solution for Dam-Break Problem, Bruce Hunt, HY Jan. 82, p115-126.

Analysis of Flooding in the 12 Towns Sewer System, Bruce E. Holbrook and Philip B. McCallister, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p566-571.

Coping with the Great Lakes, Flooding and Erosion, R.

James Lloyd, (Coastal Zone 33, Orville T. Magoon, et al, eds., 1983), p2679-2682. Frequency of Northeaster Tides in Coastal New York, Stergios A. Dendrou, Charles I. Moore and Vance A. Myers, (Frontiers in Hydraulic Engineering, Hung Tao

Shen, ed., 1983), p182-187.

Methodology for Calculating Wave Heights Associated with Storm Surges Utilized by the National Flood Insurance Program, William G. Fry and Perry E. Rhodes, (Coassal Zone '83, Orville T. Magoon, et al, eds., 1983), p1991-2004.

Shoreline Changes Due to Various Sea-Level Rise Scenarios, Timothy W. Kana, Jacqueline Michel, Miles O. Hayes and John R. Jensen, (Coastal Zone "33, Orville T. Magoon, et al, eds., 1983), p2768-2776. Water Diversion Contractor Liable, CE Jan. 83, p14.

Floodplain insurance

Storm Surge Modeling in Coastal Flood Plain Management, Y. J. Tsai, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2005-2019.

Analyses of Flow Failures of Mine Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton Seed, GT Feb. 83, p150-171.

Asymptotic Solution for Dam Break on Sloping Channel, Bruce Hunt, HY Dec. 83, p1698-1706. Earthen Dam Fails in Colorado: State Fears Major

Floods, CE July 83, p19.

Investigation of Flow Failures of Tailings Dams, Jey K.

Jeyapalan, J. Michael Duncan and H. Bolton Seed, GT Feb. 83, p172-189.

SCS Rainfall-Runoff Model TR-55 and Proposed Revisions, Donald E. Woodward, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p541-546.

Pontessee Valley Extreme Wind Speed Climatology, Donald W. Newton, M. Lawrence Nicodemus and Nathaniel B. Guttman, HY Aug. 83, p1093-1107.

Applicability of Dam-Break Flood Wave Models, Nikolaos D. Katopodes and David R. Schamber, HY May 83, p702-721.

Asymptotic Solution for Dam Break on Sloping Channel, Bruce Hunt, HY Dec. 83, p1698-1706.
Direct Computation of Dam-Break Waves, Michael
Amein, J. C. Li and T. S. Wu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p331-336. Modified Kinematic Model: Application to Bed Forms,

Charles C. S. Song, HY Aug. 83, p1133-1151.
Wind-Wave Growth with High Friction, Fred E. Camfield, WW Feb. 83, p115-117.

Atchafalayai Management: Opportunities and Problems, Charles Fryling Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2269-2278.

Comprehensive Analysis Methodology for Wood Floors, Eugene M. Schaefer and M. Daniel Vanderbilt, ST July 83, p1680-1694.

Design of Floor Slabs Coupling Shear Walls, Alexander Coull and Wong Yang Chee, ST Jan. 83, p109-125. Finite Element Analysis in Design of Floor Systems, Metro M. Hrabok and Terry M. Hrudey, ST Apr. 83,

p909-925.

Moments in Edge Panels of Flat Plate Floors, A. S. Hall and B. V. Rangan, ST Nov. 83, p2638-2650. Optimum Floor Elevation in Storm Tide Flood Zones,

Courtland A. Collier and James R. Williams, Jr., WW Feb. 83, p41-53.

Point Loads on Precast Concrete Floors, John F. Stanton, ST Nov. 83, p2619-2637. Wood Floors with Nonlinear Nail Stiffness, Dan L. Wheat, M. Daniel Vanderbilt and James R. Goodman, ST May 83, p1290-1302.

Use of Inlet Sand for Beach Nourishment in Florida, Mark E. Leadon, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2378-2386.

Flow characteristics

Nature of Wave Attenuation in Open Channel Flow, Victor Miguel Ponce, HY Feb. 82, p257-262.

Canal Radial Gate Discharge Algorithms and Their Use, Clark P. Buyalski, (Advances in Irrigation and

Drainage, John Borrelli, ed., 1983), p538-545.

Flow distribution SWMM Model and Level of Discretization, Nabil A. Zaghloul, HY Nov. 81, p1535-1545.

Regionalized Flow Duration for Philippines, Rafael G. Quimpo, Angel A. Alejandrino and Thomas A. McNally, WR Oct. 83, p320-330.

Canal Radial Gate Discharge Algorithms and Their Use, Clark P. Buyalski, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p538-545.

Comparison of Open Channel Constriction Ratings,

Abbas A. Fiuzat and Gaylord V. Skogerboe, HY

Abbas A. Fiuzat and Gaylord V. Skogerboe, HY Dec. 83, p1589-1602.
Continuous Velocity Measurements in the St. Clair River, Jan A. Derecki, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 5888.
Effect of Gradients on Acoustic Velocity Meter, Henry T. Falvey, HY Nov. 83, p1441-1453.
Flow Velocities in Pipelines, Richard D. Pomeroy, HY Aug. 83, p1108-1117.
Measurement Device Effect on Channel Water Local

Measurement Device Effect on Channel Water Loss, Thomas J. Trout, IR March 83, p60-71. Performance of Large Measuring Flumes in

Canals, J. A. Replogle, A. J. Clemmens, S. W. Tanis and J. H. McDade, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p530-537.

Some Physical and Mathematical Checks on Turbulence Data and Models, Stanley Corrsin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1174-1176.

Ultrasonic Doppler Velocimetry in Muddy Flows, He Renjie, Wang Sujun and Li Xingzhi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1283-1286.

Flow patterns

Application of Cafe to the Irish Sea, Fonda L. Thompson and Yasuo Onishi, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p369-374. Scale Effects of Modeling Flow Conditions in Pump Sumps, M. Padmanabhan and G. E. Hecker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed.,

1983), p153-158. Vortex Flow with the Presence of a Barrier, Chwen-Yuan Guo and Hsien-Ping Pao, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1154-1157.

Flow profiles

Steady, Non-Uniform, Rapidly Varied Flow Profiles, Eugene J. Gemperline and W. R. Ivarson, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p593.

Flow rates

Air Voids at Downshaft-Tunnel Bends, Barry T.

Goldring, HY Feb. 83, p189-198.

Evaluation of the Accuracy in Velocity Measurement in Alluvial Rivers, Tomio Asano, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1258-1261

Fluctuations in Irrigation Water Deliveries, Albert J. Clemmens, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p546-553.

Minimum Energy and Energy Dissipation Rate, Charles C. S. Song and Chin Ted Yang, HY May 82,

Modeling of Ice Discharge in River Models, Darryl J. Calkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p285-290.

Performance of Air Slots in High Velocity Chutes, S. Karaki, T. E. Brisbane, A. R. Luecker and P. C. Chao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p444. Practical Method of Estimating Peak Flow, Beni P.

Sangal, HY Apr. 83, p549-563.

Some Interactions in Flow-Induced Motions of Tubes, A. K. Bajaj, (Recent Advances in Engineering Me-A. K. Bajaj, (recent Advances in Engineering Practice, chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p193-196. Wave Induced Velocities Close to a Rippled Bed, C. G. du Toit, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p312-327.

Analysis of the Variation of River Stage in the Freezing Season for Some Cases on the Yellow River, Chen Zanting, Sun Zhaochu and Wang Wencai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p248-253.

Analytical Determination of Form Friction Factor, Muhammad I. Haque and Khalid Mahmood, HY Apr. 83, p590-610.

Energy Expenditure in Curved Open Channels, Howard H. Chang, HY July 83, p1012-1022. Equivalent Roughness of Alluvial Bed, Leo C. van Rijn,

HY Oct. 82, p1215-1218. Flow Depth in Sand-Bed Channels, William R. Brown-

ie, HY July 83, p959-990.
Flow Resistance in Coarse Gravel Bed Rivers, George A. Griffiths, HY July 81, p899-918.

Flow Resistance in Large Test Channel, Joe C. Willis, HY Dec. 83, p1755-1770.

Flow Resistance in Wide Rectangular Channels, W. R.

Myers, HY April 82, p471-482.

Resistance Equation for Large-Scale Roughness, James C. Bathurst, Ruh-Ming Li and Daryl B. Simons, HY Dec. 81, p1593-1613. Resistance to Flow in Alluvial Channels, Gerd Holtorff,

HY Sept. 82, p1010-1028.

Steady Bed Material Transport in Alluvial Channels, Gerd Holtorff, HY March 83, p368-384.

Suspended Sediment Effect on Flow Resistance, Y. Lam Lau, HY May 83, p757-763. Turbulent Flow over Undular Permeable Boundaries, R. T. Ho and L. W. Gelhar, HY May 83, p741-756.

Flow separation Length of Flow Separation over Dunes, Peter Engel,

HY Oct. 81, p1133-1145.
Two-Equation Turbulence Model for Flow in Trenches, Ben J. Alfrink and Leo C. van Rijn, HY July 83, p941-958.

Flow simulation

Kinematic-Wave Furrow Irrigation Model, Wynn R. Walker and Allan S. Humphreys, IR Dec. 83, p377-392.

Flow visualization

Flow Visualization and Digital Image Processing of the Velocity and Concentration Fields in Turbulent Flows, J. L. Balint, M. Ayrault and J. P. Schon, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p1246-1249. Observations on the Nature and Mechanism of the Structure of Turbulent Boundary Layers: A Survey and New Results, J. M. Wallace, J. -L. Balint, J. -L. Mariaux and R. Morel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Mechanics and Civil Engineering Me neering Practice, W. F. Chen, et al, eds., 1983), p1198-1201.

Flue gases
Economic Dispatch for Flue Gas Desulfurization Ronnie Leung-nee Tong and John D. Keenan, EY March 83, p17-34. Emmission Control Becoming More Precise, CE Jan.

83, p8. Space and Schedule Considerations for Backfitting SO Removal Systems, Wayne A. Rauch, EY Sept. 83, p192-198.

Fluid flow

Deflections of Jets by Weak Crossflows, Peter M. Steffler and Nallamuthu Rajaratnam, EM Oct. 83, p1303-1307.

Design of Energy-Efficient Pipe-Size Expansion, Garland E. Laliberte, Marvin N. Shearer and Marshall J. English, IR March 83, p13-28.

Experiments on Starting Homogeneous Jets, John D. Demetriou, HY July 83, p1039-1044. Harmonic Analysis of Coupled Fluid and Piping, Frank

J. Hatfield and David C. Wiggert, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Influence of Corner Shear Layers in Rotating Flows,

Jey K. Jeyapalan, EM Feb. 83, p244-262.

Mutual Interference Drag on Signs and Luminaires,
James F. Marchman, III. and Todd D. Werme, ST Oct. 82, p2235-2244.

Node Flow Analysis of Water Distribution Systems, Pramod R. Bhave, TE July 81, p457-467. Non-Newtonian Flow Using Penalty Finite Elements, B. Bernstein, D. S. Malkus and E. T. Olsen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p826-828.

Nonuniform Laminar Free-Surface Flow, Ioannis K. Tsanis and Hans J. Leutheusser, EM April 82,

On Frontier between Rheology and Mudflow Mechanics, Cheng-lung Chen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p113-118.
Oscillatory Model for Wall-Bounded Turbulence, Enso

Levi, EM June 83, p728-740.

Plane Turbulent Plumes in Coflowing Streams, Nallamuthu Rajaratnam and Pande B. B. Lal, EM Oct. 83, p1299-1303.

p1299-1303. Saltation in Water Dynamics, Peter J. Murphy and Hamid Hooshiari, HY Nov. 82, p1251-1267. Schwarz-Christoffel Theory of Flow Past an Opening, Cheng-lung Chen and Ming-Yang Su, EM April 82,

Sediment Transport in Stratified Turbulent Flow, Bruce A. DeVantier and Bruce E. Larock, HY Dec. 83, p1622-1635

Steady Bed Material Transport in Alluvial Channels, Gerd Holtorff, HY March 83, p368-384. Stress-Fluid Flow Analysis of Fractured Rocks,

Mohamad S. Ayatollahi, Jahan Noorishad and Paul A. Witherspoon, EM Feb. 83, p1-13. Suspended Sediment Profile for Ice-Covered Flows,

Bommanna G. Krishnappan, HY March 83, p385-

Transverse Bed Slope in Alluvial Channel Bends, A. Jacob Odgaard, HY Dec. 81, p1677-1694. A Universal Strouhal Law, Enso Levi, EM June 83,

p718-727.

Uplift Pressure in Crack Below Dam, Richard E. Goodman, Bernard Amadei and Nicholas Sitar, EY

Dec. 83, p207-221.

Vortex Flow with the Presence of a Barrier, Chwen-Yuan Guo and Hsien-Ping Pao, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1154-1157.

Fluid mechanics

Dynamic Fluid-Structure-Soil Interaction, Jean H. Prevost and Thomas J. R. Hughes, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p133-143. Hybrid/Mixed Methods in Fluid Mechanics, Chien-

Tung Yang and Satya N. Atluri, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p825

Pressure on Annular Wing Surface, Pai-Mow Lee and Chi-Kai Kwok, HY Feb. 83, p235-253.

Progress in Turbulence Modelling and Its Applications, Ching Jen Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1180-1183. Recent Advances in Engineering Mechanics and Their

Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp.
Water-Dam Interaction during Earthquakes, V. Lotfi, J. M. Roesset and J. L. Tassoulas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p291-294.

Fluidized bed processing Cost Model of Industrial Fluidized Bed Boilers, John D. Keenan and Mark Maguire, EY June 83, p113-

Boundary Shear in Smooth and Rough Channels, Donald W. Knight, HY July 81, p839-851.

Experiments on Beach Profile Change with a Large Wave Flume, Ryoichi Kajima, Takao Shimizu, Kohki Maruyama and Shozo Saito, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1385-1404

Internal Structure and Turbulent Entrainment Characteristics of the Saline Wedge, Frank E. Sargent and Gerhard H. Jirka, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p7.

Open Channel Transitions: Rational Method of Design, Nandana Vittal and V. V. Chiranjeevi, HY Jan. 83, p99-115.

Resistance Equation for Large-Scale Roughness, James C. Bathurst, Ruh-Ming Li and Daryl B. Simons, HY Dec. 81, p1593-1613.

Sediment Transport and Unit Stream Power Function, Chih Ted. Yang and Albert Molinas, HY June 82, p774-793.

Fly ash

Air Pollution Cleaning Wastes: Dry vs. Wet, Richard W. Goodwin, EY Sept. 83, p131-141.

Fly Ash Sulfur Concrete, William J. Head and Min-Fu Liao, TE May 81, p345-363.

Hydraulic Cement from Fly Ash and Phosphoric Acid, Mustafa Boybay and Turgut Demirel, TE July 83, p506-518.

Pulverized Coal Ash as Structural Fill, Gerald A. Leonards and Bruce Bailey, GT April 82, p517-531.

Recovery of Waste Treatment Chemicals from Fly Ash, Janet S. Condra and John W. Smith, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p403-410.

Recovery of Wastewater Treatment Chemicals from Fly Ash, John W. Smith and Janet Condra, EE Oct. 83, p1168-1180.

Settling of Coal Ashes, Byung R. Kim, T.-Y. J. Chu and R. J. Ruane, EE Feb. 83, p157-173.

Dynamic Responses of Flyash, R. C. Chaney, H. Y. Fang and G. W. Ellis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Company) neering Practice, W. F. Chen, et al, eds., 1983), p347-350.

Folded plates

Nonprismatic Folded Plates: Tests, Hasmukh Vithalbhai Trivedi, Sachchidanand Sinha and Kaveti Seetharamulu, ST Oct. 83, p2463-2473. Tests of R/C Folded Plates Shell with Edge Beams,

Musa R. Resheidat, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p553-556.

Award-Winning ASCE Student Chapter Builds Campus Bridge, CE Sept. 83, p86. Prediction and Control of Pedestrian-Induced Vibra-

tion in Footbridges, John E. Wheeler, ST Sept. 82, p2045-2065.

Footings

Bearing Capacity of Strip Footing above Void, R. L. Baus and M. C. Wang, GT Jan. 83, pl-14.

Design Footing Area with Biaxial Bending, Ramon Jarquio and Victor Jarquio, GT Oct. 83, p1337-1341. Flexural Strength of Square Spread Footing, Da Hua Jiang, ST Aug. 83, p1812-1819.

Jacobo Bielak, GT Sept. 82, p1167-1171.
Nonlinear Torsional Dynamic Response of Footing,
Robert Henke, F. E. Richart, Jr. and Richard D. Woods, GT Jan. 83, p72-88.

Optimal Grillage Layout for Given Natural Frequency, Niels Olhoff and George I. N. Rozvany, EM Oct. 82,

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Shallow Foundations on Frozen Soil: Creep Settlement, Branko Ladanyi, GT Nov. 83, p1434-1448.

Uncertainty in Bearing Capacity of Sands, Thomas S. Ingra and Gregory B. Baccher, GT July 83, p899-914.

Delenda Est Kilogram, Richard C. Gerke, El Apr. 81, p81-83.

Forced vibration
Forced Vibrations of a Submerged Elastic Shell, Tsung-chow Su, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p197-200. Prediction and Control of Pedestrian-Induced Vibra tion in Footbridges, John E. Wheeler, ST Sept. 82,

p2045-2065.

Forecasting Application of Cost-Flow Forecasting Models, Shlomo Peer, CO June 82, p226-232.

Demand Management Using Disaggregated Projections, Allison Harper, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p280-286.

Forecasting Intersection Traffic Volumes, Martin G. Buehler, TE July 83, p519-533.
Great Lakes Regulation by Lake Superior Plan 1977, Donald J. Leonard and Malcolm J. Todd, (Accomplishments and Impacts of Reservoirs, Gordon Green,

et al, eds., 1983), p211-224.

Ice Forecasting Model for Lake Erie, Shih-Huang Chieh, Akio Wake and Ralph R. Rumer, Jr., WW

Nov. 83, p392-415

Investigation of Daily Flow Forecasting Models, Hasan Yazicigil, A. Ramachandra Rao and G. H. Toebes, WR March 82, p67-85.

Long-Range Forecasting Highway Construction Costs, Zohar Herbsman, CO Dec. 83, p423-434. Projecting Sea Level Rise to the Year 2100, John S.

Hoffman, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p2784-2795.
Radar Rain Forecasting for Wastewater Control,
Christine Damant, Geoffrey L. Austin, Aldo Bellon, Mohamad Osseyrane and Nam Nguyen, HY Feb. 83.

Transferabilities of Urban Travel Demand Models, Fong-Lieh Ou and Jason C. Yu, TE July 83, p579-595.

Foreign engineering Professional Engineers in Underdeveloped Countries, A. I. B. Pengiran Damit, El Jan. 83, p58-64.

Foreign projects

Are U.S. Firms Handicapped in Winning Foreign Jobs?

Gary Goldstein, CE Oct. 83, p41-45.

Contract Arrangements in the Third World, Peter R.

Morgan and M. H. Kamil, El Oct. 82, p243-250.

The Potential for Small-Scale Hydro in Developing

Countries, Jack J. Fritz, CE Dec. 83, p46-49.

Project Systems via Satellite Communications, Daniel J. McDermott, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p267-277.

Cost Model of Industrial Fluidized Bed Boilers, John D. Keenan and Mark Maguire, EY June 83, p113-126.

Reconversion to Coal Firing at Crystal River, Robert P. McBean and Ronald J. Ott, EY Nov. 82, p155-168.

Foundation beams Beam Elements on Two-Parameter Elastic Foundations, Feng Zhaohua and Robert D. Cook, EM Dec. 83, p1390-1402.

Finite Beams on Elastic Foundation with Restraints. Bing-Yuan Ting, ST March 82, p611-621. An Improvement of Winkler Foundation, Abdul

Quddus Mohammed, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p439-442.

Foundation construction Mall, CE June 83, p54-55.

idation design

Foundation design Effect of Geologic History on the Design Parameters of Heavily Overconsolidated Till, Nassef Soliman, (Geological Environment and Soil Properties, Ray-mond N. Yong, ed., 1983), p246-268. Rock Sockets in Soft Rock, George H. Glos, III and Oliver H. Briggs, Jr., GT Apr. 83, p525-535. Shallow Foundations in Cold Regions: Design, Edward C. McRoberts, GT Oct. 82, p138-1349.

C. McRoberts, GT Oct. 82, p1338-1349.
Shear Strength Interpretation for Gulf of Mexico Clays, G. W. Quiros, A. G. Young, J. H. Pelletier and J. H-C Chan, (Geotechnical Practice in Offshore Engineering, Stepehn Wright, ed., New York: ASCE, 1983), p144-165.

Foundation performance Dynamic Fluid-Structure-Soil Interaction, Jean H. Prevost and Thomas J. R. Hughes, (Geotechnical

Prevost and Thomas J. R. Hughes, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), pl33-143.

Dynamic Response of Rigid Foundations by the Time Domain B.E.M., C. C. Spyrakos, D. L. Karabalis and D. E. Beskos, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), pl70-175.

Dynamics of Building Response with Foundation Uplift, Chik-Sing Yim and Anil K. Chopra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), pl34-137.

1983), p134-137.

Foundation settlement

Foundation Settlement, Insurance Applicable, CE June

Initial Pore Pressure from Vertical Surface Loads, Jacobo Bielak, GT Sept. 82, p1167-1171. Shallow Foundations on Frozen Soil: Creep Settlement, Branko Ladanyi, GT Nov. 83, p1434-1448.

foundation settlements

Tolerable Settlement of Buildings, Harvey E. Wahls, GT Nov. 81, p1489-1504.

Beam Elements on Two-Parameter Elastic Foundations, Feng Zhaohua and Robert D. Cook, EM Dec. 83, p1390-1402.

Cooling Towers on Flexible Foundations, Julian A. Dumitrescu, James G. Croll and David P. Billington,

ST Oct. 83, p2248-2264.

Design Footing Area with Biaxial Bending, Ramon Jarquio and Victor Jarquio, GT Oct. 83, p1337-1341. A Direct Automated Simulation of Plates Resting on Foundations, N. J. Salamon, F. F. Mahmoud and Y. -S. Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p443-446.

Dynamic Lateral Pile-Group Effects, Takaaki Kagawa, GT Oct. 83, p1267-1285.

Dynamic Stiffness of Embedded Foundations, H. T. Chen, J. M. Roesset and J. L. Tassoulas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p178-181.

Finite Beams on Elastic Foundation with Restraints,

Bing-Yuan Ting, ST March 82, p611-621. An Investigation of the Stable Weight of Rubble for the Foundations of Vertical Walls under Wave Action, Yu-Cheng Li and Zi-Quang Zhong, (Coastal Struc-tures '83, J. R. Weggel, ed., 1983), p171-185. Irregular Wave Tests for Composite Breakwater Foun-

dations, Katsutoshi Tanimoto, Tadahiko Yagyu and

Voshimi Goda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2144-2163.

Lateral Dynamic Response of Constrained-Head Piles, Alvaro Velez, George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081.

Lateral Response of Fixed-Head Pile, Prabhakar J. Pise,

Lateral Response of Fixed-Head Pile, Prabnakar J. Pise, GT Aug. 83, p1126-1131.

Laterally Loaded Pile Behavior, Michael Georgiadis and Roy Butterfield, GT Jan. 82, p155-165.

On Response of Beams on Elastic Foundations, J. Bielak and D. Sriram, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Mechanics and Their Impact on Civil Engineering Mechanics and Their Impact on Civil Engineering Mechanics.

neering Practice, W. F. Chen, et al, eds., 1983), p435-438

Parking Garage Supported on Structural Fill, James J. Schnabel and Ray E. Martin, CO Sept. 83, p286-296.

Possible Ductility' in a Material with Planar Discontinuities, Thomas M. Tharp, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p968-971.

Pulverized Coal Ash as Structural Fill, Gerald A. Leonards and Bruce Bailey, GT April 82, p517-531. Ribbed Plates on Non-Linear Foundations, Chao Shih

Li and Tseng Huang, (Recent Advances in Engineering Li and iseng riuang, (Receni Advances in Engineering Mechanics and Their Impacts on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p431-434. Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and

tarrougn irregular wave 1est, Masato y amamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143. Timoshenko Beams on Linear Viscoelastic Foundations, Harutoshi Kobayashi and Keiichiro Sonoda, GG June 83, p832-844.

Uncertainty in Bearing Capacity of Sands, Thomas S. Ingra and Gregory B. Baecher, GT July 83, p899-914. Vibration of Asymetrical Building-Foundation Systems, Thambirajah Balendra, Chan Weng Tat and Seng-Lip Lee, EM Apr. 83, p430-449.

Fracture mechanics

Application of Fracture Mechanics to Concrete, Sidney Mindess, (Recent Advances in Engineering Mechanics

ranutess, (recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p794-797.

Application of Fracture Mechanics to Reinforced Concrete, Zdenek P. Bazant and J. K. Kim, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p798-800.

Coalescence of Multiple Entiruse Coales at a Necth P.

Coalescence of Multiple Fatigue Cracks at a Notch, R. Perez and A. F. Grandt, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p997-1000.

Crack Spacing in Reinforced Concrete: Approximate Solution, Zdenek P. Bazant and Byung H. Oh, ST Sept. 83, p2207-2212.

Criterion for Mixed Mode Fracture in Wood, S. Mall, Joseph F. Murphy and James E. Shottafer, EM June 83, p680-690.

Finite Element Model to Determine K, Kuo-Kuang Hu, Chen-Ming J. Huang and Stuart E. Swartz, EM Aug. 83, p1103-1113.

Finite Element Modeling of Crack Band Propagation, Zdenek P. Bazant and Luigi Cedolin, ST Jan. 83, p69-92.

Fracture and Fatigue Life Control Design of Bridges, Kohsuke Horikawa, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Merchanics of their Impact on Civil Engineering Fractice, W. F. Chen, et al, eds., 1983), p801-804. Fracturing of Rock with Expansive Cement, Charles H. Dowding and Joseph F. Labuz, GT Oct. 82, p1288-

Glass Cladding Design for Wind, D. A. Reed and Emil Simiu, (Recent Advances in Engineering Mechanics and

Simil, (recent awances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen et al, eds., 1983), p726-729.
Microplane Model for Progressive Fracturing, Zdenek P. Bazant and B. H. Oh, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p956-959.

Nonlinear Fracture Process Zone in Concrete, M. Wecharatana and S. P. Shah, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983),

p993-996.

On Wave Propagation and Fracture in Concrete Structures, Larsgunnar Nilsson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p972-976.

Predictions of Nonlinear Fracture Process Zone in

Concrete, Methi Wecharatana and Surendra P. Shah, EM Oct. 83, p1231-1246.

The Rapid Tearing of a Wedge, J. P. Dempsey and E. B. Smith, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p471-474.

Spacing of Cracks in Reinforced Concrete, Zdenek P. Bazant and Byung H. Oh, ST Sept. 83, p2066-2085. Stress Intensity Factors for Welded Bridge Details,

Richard Roberts and John W. Fisher, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p805-808.

Viscoplastic Fatigue Effects at Elevated Temperatures, James E. Keck and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p648-651.

Fracture strength

Finite Element Analysis for Fracture Toughness Testing, Michael P. Cleary and Brian L. Miller, EM June 83, p741-755.

An Evaluation of the AASHTO Fracture Control Plan, Stanley T. Rolfe and A. P. Bezzone, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p193-213.

Fatigue Research at the University of Illinois, William J. Hall, Frederick V. Lawrence and James E. Stallmeyer, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p3-23

Fracture Diagnosis in Beam-Frame Structures Using Circuit-Analogy, Frederick D. Ju, Mehmet Akgun and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p767-769. Ice Strength in Brittle and Ductile Failure Modes, Dale

G. Karr and Sankar C. Das, ST Dec. 83, p2802-2811.

Modeling Fractures in Fiber Reinforced Concrete, Antoine E. Naaman and Kitisak Visalvanich, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1307-1310.

Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus,

ed., 1983, 218pp.

Fracturing

On the Goals of Computation in Stress Analysis, Barna A. Szabo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p818-820.

Framed structures

Approximate Method for Lateral Load Analysis of High Rise Buildings, Fernand K. E. C. Mortelmans, Guido P. M. J. De Roeck and Dionys A. Van

Gemert, ST Aug. 81, p1589-1610.

Experimental and Analytical Prediction of the Mechanical Characteristics for 7-Story R/C Frame.Wall

Structure, A. E. Aktan and V. V. Bertero, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p363-367. Fracture Diagnosis in Beam-Frame Structures Using

Circuit-Analogy, Frederick D. Ju, Mehmet Akgun and Thomas L. Paez, (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p767-769. Large Deflection and Stability of Rigid Frames, Riyad K. Qashu and Donald A. DaDeppo, EM June 83,

Seismic Response of Friction Damped Braced Frames, Avtar S. Pall and Cedric Marsh, ST June 82, p1313-1323.

Simplified Analysis of Bundled-Type Structures, Alexander Coull, Bishwanath Bose and Abdulla K. Ahmed, ST May 82, p1140-1153.

Computer Graphics for 3D Structural Analysis, John F.

Abel, William McGuire and Anthony R. Ingraffea, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p594-607.

Design Optimization of Lateral Load Resisting Frameworks, Emmanuel E. Velivasakis and Robert DeScenza, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p130-143.

Dynamics of Frames with Axial Constraints, William Weaver, Jr. and Moshe Eisenberger, ST March 83,

Earthquake Resistant Tensile Lap Splices, J. Dario Aristizabal-Ochoa, ST Apr. 83, p843-858. Elastic Analysis of Laterally Loaded Frames, Donald J. Fraser, ST June 83, p1479-1489.

Finite Element for Shear Walls in Multistory Frames,

William Weaver, Jr., Dong-Guen Lee and George Derbalian, ST July 81, p1365-1369. Geometric Nonlinearities in Unbraced Multistory Frames, Shu-Ming A. Lai and James G. MacGregor, ST Nov. 83, p2528-2545.

Inelastic Tangential Stiffness for 2-D Frames, Tai-Yan Kam, Edwin C. Rossow and Ross B. Corotis, ST Nov. 83, p2685-2697.

Internal Force Distribution Effect on Framework Stability, George D. Manolis and Dimitrios E. Beskos, ST Jan. 83, p250-257.

Large Deformation Analysis of Elastic-Plastic Frames, Aslam Kassimali, ST Aug. 83, p1869-1886. Nonlinear Elastic Frame Analysis by Finite Element,

Robert K. Wen and Jalil Rahimzadeh, ST Aug. 83, p1952-1971.

Pure and Warping Torsion Analysis of Rigid Frames, Min-Tse Chen and Donald E. Jolissaint, Jr., ST Aug. 83, p1999-2003.

Shape Optimization of Skeletal Structures: A Review, B. H. V. Topping, ST Aug. 83, p1933-1951. Uniform Element Modeling of Tapered Frame Members, Eryk Kosko, ST Jan. 82, p245-264.

Frazil Ice, Steven F. Daly, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p218-223. Resistance of Beauharnois Canal in Winter, Gee Tsang, HY Feb. 82, p167-186.

Flow around Fixed Circular Cylinders: Fluctuating Loads, Cesar Farell, EM June 81, p565-588.

Free surfaces

Boundary Integral Solutions of Water Wave Problems, Gerard P. Lennon, Philip L-F. Liu and James A. Liggett, HY Aug. 82, p921-931.

Model-Prototype Comparison of Free Surface Vortices, George E. Hecker, HY Oct. 81, p1243-1259.

Turbulence Measurements Near the Free Surface in Stirred Grid Experiments, Blair H. Brumley and Gerhard H. Jirka, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1254-1257. Water-Dam Interaction during Earthquakes, V. Lotfi, J.

M. Roesset and J. L. Tassoulas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p291-294.

Freeway planning
Social and Environmental Impacts: Edens Project,
Henry M. Yamanaka, TE Sept. 83, p721-732.

Freeze-thaw durability

Oil Rigs Designed to Combat Arctic Ice, Ben C. Gerwick, Jr., CE Dec. 83, p38-41.

Slurry Pipeline Operations in Cold Regions-Some Aspects, Anders Sellgren, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p682-693.

Freight
What Future for America's Railroads? Eugene E. Dallaire, CE Nov. 82, p54-59.

Freight transportation Probabilistic Fatigue Analysis of Freight Cars, J.

Mohammadi and V. K. Garg, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Frequency analysis
Stage-Frequency Analysis at a Major River Junction,
Gary R. Dyhouse, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p492-498.

Three-Parameter Probability Distribution of Best Hydrologic Bounds, Donthamsetti Veerabhadra Rao. (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p486-491.

Frequency distribution
Distribution of Infiltration on a Small Watershed,
Oliver J. Grah, Richard H. Hawkins and Terrance W. Cundy, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p44-54.

Estimating Log Pearson Parameters by Mixed Mo-ments, Donthamsetti Veerabhadra Rao, HY Aug. 83,

n1118-1132

Fitting Procedures for the Log-Boughton Distribution, Walter C. Boughton and Edward D. Shirley, HY Apr. 83, p579-589.

Interrelationships of Irrigation Uniformity Terms, A.

W. Warrick, IR Sept. 83, p317-332.
Wave Height Distributions and Wave Grouping in Surf Zone, Hajime Mase and Yuichi Iwagaki, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p58-76.

Fresh water National Water-Use Information Program, William B. Mann, IV, John E. Moore and Edith B. Chase, WR Apr. 83, p186-194.

Concrete Plate Reinforcement: Frictional Limit Design, Zdenek P. Bazant and Chuan Lin, ST Nov. 82, p2443-2459.

Contact-Slip Analysis Using Mixed Displacements, Robert B. Haber and John F. Abel, EM Apr. 83, p411-429.

Flood Plain and Main Channel Flow Interaction, Donald W. Knight and John D. Demetriou, HY Aug. 83, p1073-1092

Frictional Slip Between Layer and Substrate, David Schmueser, Maria Comninou and John Dundurs, EM Dec. 81, p1103-1118.

Friction coefficient, hydraulic Energy Losses and Shear Stresses in Channel Bends, Raul Pacheco-Ceballos, HY June 83, p881-896. Interfacial and Bed Shear Stresses in Saline Wedges,

Vassilios Dermissis and Emmanuel Partheniades, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2474-2493.

Friction coefficients, hydraulic Flow Resistance in Wide Rectangular Channels, W. R. C. Myers, HY April 82, p471-482.

Analytical Determination of Form Friction Factor, Muhammad I. Haque and Khalid Mahmood, HY Apr. 83, p590-610.

Asymmetric Plane Flow with Application to Ice Jams, Jean-Claude Tatinclaux and Mustafa Gögüs, HY Nov. 83, p1540-1554.

Flow Peysiance in Same Stresses in Channel Bends, Raul Pacheco-Ceballos, HY June 83, p881-896. Flow Depth in Sand-Bed Channels, William R. Brownie, HY July 83, p959-990. Flow Resistance in Large Test Channel, Joe C. Willis, HY Dec. 83, p1755-1770.

Friction resistance

Friction Capacity of Piles Driven into Clay, Leland M. Kraft, Jr., John A. Focht, Jr. and Srinath F. Amerasinghe, GT Nov. 81, p1521-1541.

Fringe benefits Employment Conditions: United States versus Overseas, Joseph E. Hardee, El Apr. 83, p103-112.

rost heave

Shallow Foundations in Cold Regions: Design, Edward

C. McRoberts, GT Oct. 82, p1338-1349.

Froude number

Minimum Specific Energy in Compound Open Channel, Merritt E. Blalock and Terry W. Sturm, HY June 81, p699-717.

Frozen soils

Analysis of Frozen Sand Beams, Robert K. Wen, Sweanum Soo and Orlando B. Andersland, (Recent Advances in Engineering Mechanics and Their Impact

Advances in Engineering Mechanics and 1 neir impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p790-793. Design of Single Pile Supports for Arctic Pipelines, H. W. K. Bird and K. J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p525-540.

Mechanisms of Strength for Frozen Sand, John M. Ting, R. Torrence Martin and Charles C. Ladd, GT Oct. 83, p1286-1302.

Shallow Foundation on Frozen Soils: A Bibliography, Committee on Shallow Foundations of the Geotech nical Engineering Division of ASCE, GT Feb. 82, p285-291.

Shallow Foundations on Frozen Soil: Creep Settlement, Branko Ladanyi, GT Nov. 83, p1434-1448.

Slope Erosion Related to Soil Freezing and Thawing on Mt. Fuji, Masahari Fukue, So Anma and Shigeyasu Okusa, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p405-432.
Tertiary Creep Model for Frozen Sands, John M. Ting,

GT July 83, p932-945.

Fuel consumption Highways, Transport, and Energy: A Look Ahead, Herbert S. Levinson, TE Sept. 82, p447-456.

Cost Model of Industrial Fluidized Bed Boilers, John D. Keenan and Mark Maguire, EY June 83, p113-126

Fuel economy Highways, Transport, and Energy: A Look Ahead, Herbert S. Levinson, TE Sept. 82, p447-456.

ASCE North Carolina Section Conducts Study on Wood-Burning Appliances, CE June 83, p68.
Cofiring of RDF at the C. P. Crane Station: 1980 Test
Results and Future Plans, R. H. Bourquin, Jr.,

(National Conference on Environmental Engineering, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p853-860.

Instabilities in Air Classification of Fuels, Jeffrey B. Taub and J. Jeffrey Peiree, EY June 83, p74-87.

Full Scale Testing to Estimate Actual Plant Capacity, Timothy M. Curran, Salvatore D'Angelo and Keith C. Rice, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p585-592

Funding allocation

EPA Audit Finds Fault with Grants Spending, CE Jan.

Funding allocations 1983 R&D Funding May Reach \$83.6 Billion, CE Feb. 83, p26.

Bill Proposes Aid for U.S. R&D Ventures, CE July 83,

p22. Bill Provides Funds for EPA and HUD, CE Sept. 83, p10.

Capital Budgeting and Getting Involved in Public Works Planning, Helen Bogolubow Desai, CE Sept. 83, p130.

Clinch River Funding Challenged in House, CE June 83, p10.

Coastal Zone Management and Energy Development: Who Pays the Price? Ronald Ritschard and Edward Kaplan, (Coastal Zone '83, Orville T. Magoon, et al.,

eds., 1983), p61-78.

Congressional Budget Office Estimates \$53.4 Billion a Year for Public Works, CE June 83, p21.

Enhancing Highway Safety with Limited Resources, Harold C. King, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983),

p143-147. FHWA Expands State Matching Fund Rules, CE July 83, p16.

Financing and Priority Setting of Highway Safety Projects, Kumares C. Sinha, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p148-161.

House Approves DOT Appropriations, CE Aug. 83, p10.

Rosenblatt, CE June 83, p6.

New Gas Tax Proposed for Highway Work and

Bridges, CE Apr. 83, p8.

New Water Projects for the West, CE Jan. 83

The Reagan Energy Policy vs. Its Critics, CE Jan. 83,

p65 Regionalism, the New Federalism, and Coastal Zone Management in the 1980's, David A. Veshosky, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p52-60.

Salvaging Cleveland, Allen Morrison, CE Nov. 82, p39-42. Senate Vote Almost Certainly Kills Clinch River, CE

Dec. 83, p10.

Subcommittee Opposes Mass Transit Cuts for 1984, CE April 83

Water Experts Call for Innovative Financing, CE Feb. 83, p8

Will Higher Energy Prices Alone Spur Needed Energy-Conservation Measures?, CE Jan. 83, p62-63.

Furrow irrigation

Furrow Irrigation Runoff: A Linear Systems Approach, Subramaniaiyer Sritharan, Wayne Clyma and Everett V. Richardson, IR March 83, p29-42.

Kinematic-Wave Furrow Irrigation Model, Wynn R. Walker and Allan S. Humphreys, IR Dec. 83, p377-392.

Zero-Inertia Modeling of Furrow Irrigation Advance, Ronald L. Elliott, Wynn R. Walker and Gaylord V. Skogerboe, IR Sept. 82, p179-195.

Fuzzy sets

Reliability Analysis Based on Fuzzy Probability, Naruhito Shiraishi and Hitoshi Furuta, EM Dec. 83.

Updating Parameters with Fuzzy Entropies, Tai-Yan Kam and Colin B. Brown, EM Dec. 83, p1334-1434.

Garages
Cost Trade-Off Analysis for Bus Facility Expansion,
To Jun 83 Wilbert E. Wilhelm and Wyley J. Parks, TE Jan. 83, p124-136.

Gas pipeline

Policies for Pipeline Safety Near Urban Areas, R. J. Allman and J. D. Dilay, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p212-237.

Gas pipelines

Arctic Pipeline River Crossings—Design Trends and Lessons Learned, Wim M. Veldman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p70-83.

Finite Element Techniques for Pipelines Subjected to Extreme Loads, Dennis Row, Grawam H. Powell and Mary W. Goodson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p474-485.

Habiganj-Ashuganj Pipeline Project—An Insignia of

Appropriate Pipeline Technology for Bangladesh and the Near East, Delawar Bakht, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p16-24.

Marine Pipeline and Ocean Outfall Protection with Flexible Matresses, Alan D. Crowhurst, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2448-2458.

Approach-Flow Effects on Downpull of Gates, Nguyen
D. Thang and Edward Naudascher, HY Nov. 83,
p1521-1539.

Miter-Type Navigation Lock Gates, Ming Der Cherng, Michael K. Phang and Chin Hao Chang, ST Oct. 83, Multipurpose Gate Operation, Kazumasa Mizumura,

(Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2534-2550.
River Hull Tidal Surge Barrier Design and Operation, Paul Parkin and John H. Fleming, (Coastal Structures '83, J. R. Weggel, ed., 1983), p562-572.
Wave Loads on Vertical Sliding Gates Eastern-Scheldt Barrier, Frans C. Hamer, René M. Korthof, Han Ligteringen and Henk van de Weyde, (Coastal Structures '83, J. R. Weggel, ed., 1983), p551-561.

Geodesy
Centimeter Precision Airborne Laser Ranging System,
John J. Degnan, Werner D. Kahn and Thomas S.
Englar, Jr., SU Aug. 83, p99-115.
Centimeter-Level Relative Positioning with GPS,
Charles C. Counselman, III, Richard I. Abbot, Sergai
A. Gourevitch, Robert W. King and Albert R. Paradis, SU Aug. 83, p81-89.

Geodetic surveys

Aerial Profiling of Terrain System, Edward J. Cyran,

SU Aug. 83, p136-150. Centimeter Precision Airborne Laser Ranging System, John J. Degnan, Werner D. Kahn and Thomas S.

John J. Degnan, Werner D. Kahn and Thomas S. Englar, Jr., SU Aug. 83, p99-115.
Centimeter-Level Relative Positioning with GPS, Charles C. Counselman, III, Richard I. Abbot, Sergai A. Gourevitch, Robert W. King and Albert R. Paradis, SU Aug. 83, p81-89.
Inertial Survey Systems, Edward F. Roof, SU Aug. 83,

p116-135.

New Positioning Power for the Surveyor, Paul D. Rodgers, SU Aug. 83, p90-98.

Geologic investigations
EBDA Outfall Meets Challenges of San Francisco Bay. H. B. Tennant, D. G. Gray and O. Fenton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p639-649.

Geological Aspects of a Cutting Failure in Clay, Vincent Silvestri, Michel Soulié and Jean Lafleur, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p19-38.

Updating Distribution of Anomaly Size and Fraction, Wilson H. Tang and A. Saadeghvaziri, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p895-898.

Potential Expansive Soils in Arabian Peninsula, Donald E. Slater, GT May 83, p744-746.

Geologic Processes
Dynamic and Static Design Considerations for Underground Chambers, Alfred J. Hendron, Jr. and
Gabriel Fernandez, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p157-197.

and Caverns, 1erry R. Howard, ed., 1963), p.137-197.
Origin and Properties of Glacial Till and Diametons,
A. J. Lutenegger, T. J. Kemmis and G. R. Hallberg,
(Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p.310-331.

Geological anomalies
Updating Distribution of Anomaly Size and Fraction,
Wilson H. Tang and A. Saadeghvaziri, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p895-898.

Geological faults

Some Considerations in the Selection of Design Earthquakes for Critical Structures, Dean Ostenaa and Louis R. Frei, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p1-9.

Geological surveys
Geotechnical Considerations of Las Vegas Valley,
Joseph M. Cibor, (Geological Environment and Soil
Properties, Raymond N. Yong, ed., 1983), p351-373.
A Study of the Geotechnical Properties of Milwaukee
Area Soils, P. N. Singh, S. V. Tatioussian and C. G.
Elsen, Geological Environment Soil
Properties.

Flagg, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p269-309.

Geological Environment and Soil Properties, Raymond

N. Yong, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), pl-4. Geology and Soil Properties of Winnipeg, Andrew Baracos, James Graham, Bruce H. Kjartanson and

Baracos, James Graham, Bruce H. Kjartanson and Donald H. Shields, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p39-56. Landslides in Soils Overlying Franciscan Assemblage, Vincent N. Pascucci, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182. Parking Garage Supported on Structural Fill, James J. Schnabel and Ray E. Martin, CO Sept. 83, p286-296.

A Rapid Method of Computing Geometric Relations in Structural Analysis, CE June 83, p51-53.

Geomorphology
Arroyo Engineering in an Urban Environment, Richard
J. Heggen, UP May 83, p1-6.
Biological Effects of Highway Fills, Gary D. Miller,
Larry W. Canter and Joakim G. Laguros, (Geological
Environment and Soil Properties, Raymond N. Yong, ed., 1983), p374-386. Geomorphic Effects of Projected Sea Level Rise: A

Case Study of Galveston Bay, Texas, Stephen P. Leatherman, (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p2890-2901.

Geophysical surveys
Offshore Geotechnics: Trans-Panama Pipeline System, H. R. Al-Alusi and G. R. Thiers, (Pipelines in Adverse

H. R. Al-Alusi and G. R. Iniers, (repetines in Adverse Environments II, Mark Pickell, ed., 1983), p650-667. Remote Sensing Characterization of Nigerian Soils, Samuel Uche Ejezie, Thomas D. O'Rourke and Kingsley Harrop-Williams, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p332-350.

Geotechnical engineering Advances in Geotechnical Engineering for Marine Terminal Facilities, E. E. Rinne, W. H. Roth and R. M. Moline, (Proceedings of Ports 83, Kong Wong, ed., 1983), p284-298.

Changes in Tunneling, CE Dec. 83, p16.

Geotechnical Centrifuges and Earthquake Simulator, Bruce L. Kutter, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p621-625.

Geotechnical Engineering, Design and Construction, Port of Oakland, Mahmut Otus, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p129-140.

Jetty 8 Renovations CFB Dockyard, Halifax, N.S.,

Peter J. Barry, (Proceedings of Ports 83, Kong Wong,

ed., 1983), p788-801. Liability Problems Analyzed, CE Aug. 83, p17. Proceedings of the Conference on Geotechnical Prac-tice in Offshore Engineering, Stephen G. Wright, ed., 1983, 630pp

SI Units for Geotechnical Engineering, Committee on Definitions and Standards of the Geotechnical Division, (Marshall L. Silver, chmn.), GT Dec. 83, p1534-1538. A Unified Geotechnical Engineering Systems Approach

Applied to Arctic Pipeline Planning and Design, Charles L. Vita and James W. Rooney, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p291-300.

Geotechnical surveys Trans-Panama Pipeline System Geotechnical Studies, R. W. Heneks and G. R. Thiers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p668-681.

Geotextiles

Fabric Layers Stabilize Soils for Roadway Expansion,

CE July 83, p24. Filter Criteria for Geotextiles: Relevance and Use, Chris R. Lawson, GT Oct. 82, p1300-1317.

Geofabric Stabilization of Soft Backfill Materials for Plastic Sewer Pipe Installation, Jey K. Jeyapalan, (Pipelines in Adverse Environments II, Mark Fickell,

ed., 1983), p188-198. Lining a Pond to Contain Uranium Tailings, Richard

Baldwin, CE Jan. 83, p77-79.

Curved Girder Optimization-AASHTO Constraints. Richard Douty, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p102-105.

Minicomputers in Structural Optimum Design, Bogdan

O. Kuzmanovic and Nicholas Willems, CE May 82,

p82-84.

Parametric Instability of Curved Girders, Syed Amjad Ali, ST Apr. 83, p829-842. Strength and Serviceability of Steel Girder Webs, Nigel

Cooke, Warren R. Walpole, Peter J. Moss, D. Wayne Langdon and Mervyn H. Harvey, ST March 83, p785-807.

Glacial till

Effect of Geologic History on the Design Parameters of Heavily Overconsolidated Till, Nassef Soliman, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p246-268.
The Geology and Soil Properties of a Project in S.E. Alaska, Jack A. Caldwell and Allan S. E. Moss,

(Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p57-81.

Geology and Soil Properties of Winnipeg, Andrew Baracos, James Graham, Bruce H. Kjartanson and Donald H. Shields, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p39-56. Geotechnical Characterization of Ohio Valley Soils,

Geotechnical Characterization of Ohio Valley Soils, David M. Cregger, Peter J. Majeski and Thomas Y. Chang, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p387-404.
Origin and Properties of Glacial Till and Diamictons, A. J. Lutenegger, T. J. Kemmis and G. R. Hallberg, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p310-331.

Glass plates A Failure Theory for Window Glass Plates, H. Scott Norville and Joseph E. Minor, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1001-1004.

Glass Cladding Design for Wind, D. A. Reed and Emil Simiu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen et al, eds, 1983), p726-729. Iterative Analysis of Nonlinear Glass Plates, C. V. Girija Vallabhan, ST Feb. 83, p489-502.

Modeling Hydraulic Phenomena: A Glossary of Terms, ASCE Task Committee on Glossary of Hydraulic Modeling Terms of the Committee on Research of the Hydraulics Division, (J. W. Kamphuis, chmn.), HY July 82, p845-852.

Parameters Influencing Behavior of Diaphragms, Rafik Y. Itani, Girish S. Hiremath and Robert J. Hoyle, Jr., ST Feb. 83, p369-385.

Government agencies
Bill Provides Funds for EPA and HUD, CE Sept. 83, pio.

Enforcement in California's Coastal Regulatory Agen cies, Steven A. McAdam, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1666-1693.

OSHA Regulations Effect on Construction, Enno

Koehn and Kurt Musser, CO June 83, p233-244.

Government employees
A Government Engineers' Personal Liability, Paul D. Barber, El Apr. 83, p81-84.

Government organization
Regulatory Reform and Good Government, Morgan R.
Rees, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2045-2053.

Government policies
Are U.S. Firms Handicapped in Winning Foreign Jobs?
Gary Goldstein, CE Oct. 83, p41-45.
Coastal Zone 83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp.
Praxeology and Engineering, Ronald A. Chadderton,

El July 83, p159-169.

Reagan's Lopsided Energy R&D Policy: Peril to U.S. Security? Eugene E. Dallaire, CE Jan. 83, p56-67. Session: Development of Federal Policy on Coastal Barriers Case Study: The Development of a Consis-

tent Federal Policy on Coastal Barriers, Ric Davidge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p480-481.

Government role

Are U.S. Firms Handicapped in Winning Foreign Jobs?

Gary Goldstein, CE Oct. 83, p41-45.

Groundwater: An Emerging Issue, Helen Bugolubov Desai, CE Nov. 83, p112.

Governmental role

Governmental Roles in Planned Weather Modifications, Stanley A. Changnon, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p344-351.

Grain Elevators

Modernization of Grain Elevators, Randall G. Oustalet, (Proceedings of Ports 83, Kong Wong, ed., 1983), p745-748.

Grain size

Bedload and Size Distribution in Paved Gravel-Bed Streams, Gary Parker, Peter C. Klingeman and David G. McLean, HY April 82, p544-571.

Development and Prediction of Bed Armoring, Hseih

W. Shen and Jau-Yau Lu, HY Apr. 83, p611-629. SPT - CPT Correlations, P. K. Robertson, R. G. Campanella and A. Wightman, GT Nov. 83, p1449-

1459

Granular materials Diffusion of Turbulent Energy in a Granular Flow, Hayley Shen and Norbert L. Ackermann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1266-1269.

Equivalent Granular Base Moduli: Prediction, Brian E. Smith and Matthew W. Witczak, TE Nov. 81,

Performance of Granular Soil Covers on Canal Linings,

Chester W. Jones, IR March 83, p1-12. Theory and Measurements of Two-Dimensional Granular Flow, Norbert L. Ackermann and Hayley Shen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1262-1265.

Granular media
Hysteretic Endochronic Theory for Sand, Zdenek P.
Bazant, Raymond J. Krizek and Chin-Long Shieh,

EM Aug. 83, p1073-1095. Kinetics of Bed Contact Floculation, Fathy M. A. Saleh and John L. Cleasby, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p125-135.

Optimizing GAC Systems, Robert M. Clark, EE Feb. 83, p139-156.

Graphic methods
Design of Timber Beams: A Graphical Approach, Shan Somayaji, ST Jan. 83, p271-278.

Graphical Method of Optimization: A Short Cut,

Sandor Popovics, CO June 82, p211-218.

Graphs

Magnel Diagrams for Prestressed Concrete Beams Natarajan Krishnamurthy, ST Dec. 83, p2761-2769.

Graphs, charts Design Charts for Rock Slopes Susceptible to Toppling, Caner Zanbak, GT Aug. 83, p1039-1062.

Accuracy of Surface Samples from Gravel Bed Material, Richard D. Hey and Colin R. Thorne, HY June 83, p842-851.

Design Techniques to Mitigate Environmental Impact of Sand and Gravel Excavations in Alluvial Channels of the Western United States, Jeffrey M. Cooper, John R. Stratford, G. Thomas Davis and Robert H. Born, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p454. Slope Stability in Coarse Sediments, Nicholas Sitar,

(Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p82-98.

Flow Resistance in Coarse Gravel Bed Rivers, George A. Griffiths, HY July 81, p899-918.

Geological Factors Affecting Laterite Gravels, E. L. Krinitzsky and F. C. Townsend, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p137-149.

Gravity sewers
Gravity Wastewater Collection Systems Optimization, A. Gupta, S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209.

Gravity walls

Seismically Induced Movement of Retaining Walls, Farrokh Nadim and Robert V. Whitman, GT July 83,

Diffraction by Axisymmetric Green's Function, Min-Chu Chen and Robert T. Hudspeth, WW Feb. 83,

p117-121.

Effect of Wave-Current Interaction on the Wave Parameter, Yu-Cheng Li and John B. Herbich, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p413-438.

Refraction of Gravity Waves Using Global Spline Collocation, J. M. Niedzwecki and D. A. Milburn, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1150-1153.

Second Order Theory of Manometer Wave Measure-

ment, F. Biesel, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p129-135.

A Universal Strouhal Law, Enso Levi, EM June 83,

p718-727.

Velocity Measurement at a Breaking Air-Water Inter-face, W. Kendall Melville and Ronald J. Rapp, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1295-1298.

Waves in Open Channels, Jinsung Shi and Chia-Shun

Yih, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p47-89.

Great Barrier Reef

Long Waves over the Great Barrier Reef, Eric Wolan-ski, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p219-227.
Research for Management: GBR Marine Park, Aus-

tralia, John L. Kermond, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2877-2889.

Great Barrier Reef (Australia)
Management Problems of the Great Barrier Reef, Eric
C. F. Bird and Peter W. Cullen, (Coastal Zone '83,
Orville T. Magoon, et al, eds., 1983), p1518-1534.

Coping with the Great Lakes, Flooding and Erosion, R. James Lloyd, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2679-2682.

Great Lakes Ice Dynamics Simulation, Akio Wake and Ralph R. Rumer, Jr., WW Feb. 83, p86-102. Great Lakes Regulation by Lake Superior Plan 1977, Donald J. Leonard and Malcolm J. Todd, (Accom-

plishments and Impacts of Reservoirs, Gordon Green,

et al, eds., 1983), p211-224. Ice Forecasting Model for Lake Erie, Shih-Huang Chieh, Akio Wake and Ralph R. Rumer, Jr., WW Nov. 83, p392-415.

The Peril and Opportunity in the Water States, William C. Wright, CE Nov. 83, p72-73.

Pipelines in Adverse Environments, John C. Seeley,

(Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p468-473.

Greens function

Diffraction by Axisymmetric Green's Function, Min-Chu Chen and Robert T. Hudspeth, WW Feb. 83, p117-121.

Green's functions

Synthesis of Transmitting Boundaries by Use of

Green's Functions, Hidenori Murakami and J. Enrique Luco, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p162-165.

Grid systems

Irregular-Grid Finite-Difference Simulation of Lake Geneva Surge, Sebastian W. Bauer and Klaus D. Schmidt, HY Oct. 83, p1285-1297.

Constrained Optimal Layouts through Prager-Shield Criteria, G. I. N. Rozvany and C. -M. Wang, EM Apr. 83, p648-654. Optimal Grillage Layout for Given Natural Frequency,

Niels Olhoff and George I. N. Rozvany, EM Oct. 82,

p971-975.

Statistical Analysis of Timber Bridges, Baidar Bakht, ST Aug. 83, p1761-1779.

Groins, structures
Beach Response to Spurs and Groins, G. L. Anderson, C. S. Hardaway and J. R. Gunn, (Coastal Structures '83, J. R. Weggel, ed., 1983), p727-739.
Flow Near Groin-Like Structures, Nallamuthu Rajarat-

nam and Benjamin A. Nwachukwu, HY March 83, p463-480.

Ground motion

Boundary Element Analysis of Fluid Domain, Youssef G. Hanna and Jagmohan L. Humar, EM April 82.

Earthquake Motions Using a New Data Processing Scheme, S. Shyam Sunder and Betsy Schumacker, EM Dec. 82, p1313-1329.

Earthquake Response of Dams with Wave Absorbing Reservoir Bottom, Gregory Fenves and Anil K. Chopra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p287-290.

Estimating Ground Motions for Small Nearby Earth-

quakes, A. McGarr, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p113-127.

Field Measurements of an Earth Support System, C. K. Shen, S. Bang, K. M. Romstad, L. Kulchin and J. S. DeNatale, GT Dec. 81, p1625-1642.

Necessary and Sufficient Conditions for Strong Motion Parameters, Bruce A. Bolt, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p10-22

Scattering of SH Waves by Subsurface Topography, Marijan Dravinski, EM Feb. 82, pl-17. Seismic Response Arising from Traveling Waves, James R. Morgan, William J. Hall and Nathan M. Newmark, ST Apr. 83, p1010-1027. Seismically Induced Movement of Retaining Walls,

Farrokh Nadim and Robert V. Whitman, GT July 83, p915-931.

Trench Excavation Effects on Adjacent Buried Pipes: Finite Element Study, Provakar Nath, GT Nov. 83, p1399-1415.

1-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-1333

An Aritifical Cobble Beach for Erosion Control, K. A Downie and H. Saaltink, (Coastal Structures '83, J. R. Weggel, ed., 1983), p846-859.

Compressed Air Use in Soft Ground Tunneling, Robert J. Jenny, CO June 83, p206-213. Cooling Water Supply-Disposal in Coastal Aquifer, Masanobu R. Fujioka and Akshai K. Runchal, EY

June 83, p88-102.

Dispersion in Three Dimensions: Approximate Analytic Solutions, Budhi Sagar, HY Jan. 82, p47-62. Ground Water and Federal Reserved Rights, John W. Bird, WR Apr. 83, p174-178.

Groundwater: An Emerging Issue, Helen Bugolubov Desai, CE Nov. 83, p112.

Ground-Water Management in Arizona, Philip C.
Briggs, WR July 83, p195-202.
Ground-Water Mounding due to On-Site Sewage Disposal, E. John Finnemore and Norman N.

Hantzsche, IR June 83, p199-210.

Hydrogeologic Input on Generating Synthetic Flows, Turan Otova, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p514-519.

National Water-Use Information Program, William B. Mann, IV, John E. Moore and Edith B. Chase, WR Apr. 83, p186-194.

Permeability-Anisotropy due to Particle Shape, K.-J. Witt and J. Brauns, GT Sept. 83, p1181-1187.

Proceedings of the Conference on Frontiers in Hy draulic Engineering, Hung Tao Shen, ed., 1983,

617pp.

Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp.

Pump Testing Boulder Zone Aquifer, South Florida, Udai P. Singh, Gary E. Eichler, C. Ross Sproul and J. I. Garcia-Bengochea, HY Aug. 83, p1152-1160.

Secondary Recovery of Water, B. J. Claborn, IR Dec. 83, p357-365.

Seepage into Collection Galleries, Bruce Hunt, HY

June 83, p852-864. Spacing of Wells for Heat Pumps, Calvin G. Clyde and Govindachari V. Madabhushi, WR July 83, p203-212. Vadose Zone Permeability Tests: Summary, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p623-639.

Ground water recharge
Basin Recharge of Playa Water, A. D. Schneider and O.
R. Jones, IR Sept. 83, p309-316.

Ground Water Pollution Assessment and Control, William E. Kelly, Michael A. Powers and Philip P. Virgadamo, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p556-560.

Precipitation in Southern Nevada, Richard H. French, HY July 83, p1023-1036.

Groundwater

Groundwater Contamination from Agricultural Chemicals: North Fork, Suffolk County, Joseph H. Baier and Sy F. Robbins, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p1-13.

Planning Model for Land Application of Sewage Sludge, Douglas A. Haith, EE Feb. 83, p66-81.

Groundwater depletion
Arizona's Water Strategy: Bring More In and Restrict
Its Use, Allen Morrison, CE April 83, p46-49.
Ground-Water Management in Western Kansas, Edward D. Jenkins, HY Oct. 83, p1314-1322.

Groundwater flow

Advection and Dispersion in an Experimental Ground-water Plume, David L. Freyberg, Douglas M. Mackay and John A. Cherry, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p36-41. Arresting a Toxic Plume, Allen Morrison, CE Aug. 83, p35-37.

Geotechnical Perspective on River Bank Instability, James V. Hamel, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p212-217.
Groundwater Effects of Surface Mining in North
Dakota, M. R. Fujioka and T. E. Rosengreen,
(Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p36-43.

ed., 1983), p36-43.

Modeling Ground-Water Flow at Love Canal, New York, James W. Mercer, Lyle R. Silka and Charles R. Faust, EE Aug. 83, p924-942.

Sepage Around Horizontal Drains in Hill Slopes, Edmund C. C. Choi, HY Oct. 83, p1363-1368.

Two-Point Method of Dispersivity Evaluation for Tracer Tests, A. David Parr and Dennis D. Lane, (Frontiers in Hydraulic Envineerine Hung Tao Shen.) (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p29-34.

Groundwater management Arizona's Water Strategy: Bring More In and Restrict Its Use, Allen Morrison, CE April 83, p46-49. Ground-Water Management in Arizona, Philip C. Briggs, WR July 83, p195-202.

Ground-Water Management in Western Kansas, Edward D. Jenkins, HY Oct. 83, p1314-1322.

Third National Water Symposium: Groundwater Contamination is a Major Issue, Carl Nuzman, CE Dec. 83, p12,

Groundwater mo

Ground-Water Mounding due to On-Site Sewage Disposal, E. John Finnemore and Norman N. Hantzsche, IR June 83, p199-210.

Groundwater pollution Analysis of the Impacts of a Hazardous Waste Disposal Site on a Public Water Supply Well Field, David A. Woodruff, Richard J. Hughto and Brendan M. Harley, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p751-757. Arresting a Toxic Plume, Allen Morrison, CE Aug. 83, p35-37.

Attenuation of Ground-Water Contaminant Pulses, Albert J. Valocchi and Paul V. Roberts, HY Dec. 83,

p1665-1682.

Criteria for Selecting Equilibrium or Kinetic Sorption Descriptions in Groundwater Quality Models, Aaron A. Jennings and David J. Kirkner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Drainage by an Intercepting Pump Station, Mostafa M. Soliman, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p337-343.

Bortelli, ed., 1983, p.537-535.

Effect of Irrigated Agriculture on Groundwater, Herman Bouwer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p.175-182.

EPA's New Land Disposal Rules—A Closer Look, Allen Morrison, CE Jan. 83, p44-49.

Field Evaluation of Air-Stripping Processes for Organic Contaminant Removal from Ground Water, Walter A. Feige and Dominick D. Ruggiero, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p32-33.

Field-Scale Dispersion in Aquifers, Lynn W. Gelhar, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p35.

Ground Water Pollution Assessment and Control, William E. Kelly, Michael A. Powers and Philip P. Virgadamo, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p556-560

Ground Water Transport and Attenuation from a Ground Water Iransport and Attenuation from a Waste Site, Alan C. Rodgers and Philip B. Bedient, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p548-555.
Groundwater: An Emerging Issue, Helen Bugolubov Desai, CE Nov. 83, p112.
Groundwater Quality Studies in California, Kenneth D.

Schmidt and Irving Sherman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p183-191. Groundwater Studies in Texas and Oklahoma, James P.

Groundwater Studies in Texas and Okiantoma, James John Borrelli, ed., 1983), p267-274.

Ground-Water Transport from Wastewater Infiltration, Philip B. Bedient, Nina K. Springer, Ernesto Baca, Tracy C. Bouvette, S. R. Hutchins and Mason B. Tomson, EE Apr. 83, p485-501.

Implementation of a Field Experiment on Groundwater

Transport of Organic Solutes, Douglas M. Mackay, John A. Cherry, David L. Freyberg, Gary D. Hopkins, Perry L. McCarty, Martin Reinhard and Paul V. Roberts, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

A Model for the Bacterial Contamination of Ground-water, M. Yavuz Corapcioglu and A. Haridas, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p60-65.

ed., 1963), pou-03.

Modeling Ground-Water Flow at Love Canal, New York, James W. Mercer, Lyle R. Silka and Charles R. Faust, EE Aug. 83, p924-942.

Modeling Water Movement through Sanitary Landfills, Alexander C. Demetracopoulos and George P. Korfiatis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p54-59.

New Ways to Solve Underground Contamination Problems, Victor R. Johnson, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p218-222.
Research Needs of Water Utilities Related to Ground-

water Contamination, James F. Manwaring, (Nawater Contamination, James P. Manwaring, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p34-40.

Shallow Land Burial of Low-Level Radioactive Waste,

David Daniel, GT Jan. 83, p40-55.

The Successful Cleanup of Contaminated Groundwater at Woodland Park, Michigan, Albert R. Posthuma, John G. Kraus and Julie A. Rutherford, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p775-782.
Third National Water Symposium: Groundwater Con-

tamination is a Major Issue, Carl Nuzman, CE Dec.

Trichloroethylene Removal by Packed Column Air richioroethylene Removal by Packed Column Air Stripping: Field Verified Design Procedure, Michael D. Cummins and James J. Westrick, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p442-449.
Two-Dimensional Dispersion from Strip Sources. Vedat

Batu, HY June 83, p827-841.

Groundwater quality
Agricultural Drainage Well Impacts in Iowa, T. Al
Austin and James L. Baker, (Advances in Irrigation
and Drainage, John Borrelli, ed., 1983), p328-336.
Criteria for Selecting Equilibrium or Kinetic Sorption

Descriptions in Groundwater Quality Models, Aaron A. Jennings and David J. Kirkner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p42-47.

p42-41.

Dispersion in Three Dimensions: Approximate Analytic Solutions, Budhi Sagar, HY Jan. 82, p47-62.

Groundwater Contamination due to Continuous Sources, Anand Prakash, HY April 82, p572-90.

Groundwater Quality in Six Western States, Michael B. Sonnen, Jim L. Thomas and J. C. Guitjens, (Advances) in Irrigation and Drainage, John Borrelli, ed., 1983), p275-281.

Ground-Water Quality Modeling as a Management Tool, Lyle R. Silka and Audrey G. Kretschek, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983, p532-539.
Groundwater Studies in New Mexico and Arizona, George V. Sabol, Herman Bouwer and Peter J. Wierenga, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p192-199. Groundwater Studies in Texas and Oklahoma, James P.

Law, Jr., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p267-274.

Ground-Water Transport from Wastewater Infiltration,
Philip B. Bedient, Nina K. Springer, Ernesto Baca,
Tracy C. Bouvette, S. R. Hutchins and Mason B. Tomson, EE Apr. 83, p485-501.
Two-Dimensional Dispersion from Strip Sources, Vedat

Batu, HY June 83, p827-841.

Groundwater supply Secondary Recovery of Water, B. J. Claborn, IR Dec. 83, p357-365.

Strength of Anchor Bolts in Grouted Concrete Masonry, Russell H. Brown and A. Rhett Whitlock, ST June 83, p1362-1374.

Thousands of Tons of Grout Pumped to Stop Mine Subsidence, CE Nov. 83, p18.

Underpinning with Chemical Grout, W. C. Pete Parish, Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Grouting Seikan Tunnel, Akira Kitamura and Yuzo Takeuchi, CO March 83, p25-38. Underpinning with Chemical Grout, W. C. Pete Parish,

Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Method for Analysis for Guyed Towers, Felix Rosen-

thal and Richard A. Skop, ST March 82, p543-558. Post-Buckling Behavior of Guyed Towers, George A. Costello and James W. Phillips, ST June 83, p1450-1459

Guved towers

Guyed Tower with Dynamic Mooring Properties, Denby Grey Morrison, ST Nov. 83, p2578-2590. Method for Analysis for Guyed Towers, Felix Rosen-thal and Richard A. Skop, ST March 82, p543-558. Post-Buckling Behavior of Guyed Towers, George A. Costello and James W. Phillips, ST June 83, p1450-

A Simplified Simulation of Guyed Towers. P-Delta Analysis, Jean-Robert Murat and Louis Crepeau, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

Half space Infinite Elements for Elastostatics of Half Spaces, R. K. N. D. Rajapakse and Pisidhi Karasudhi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p835-838.

Plate on Poroelastic Half Space Subjected to Seismic

Waves, David G. Kurtanich and Paul Christiano, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p174-177.

Handicapped passengers Accessible Public Transit Alternatives, Robert L. Smith, Jr., TE Jan. 83, p16-32.

Handicapped persons
Barriers to Coastal Recreation for Disabled Persons, Harlan Hahn, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1882-1901.

Harbor engineering Seismic Response of San Francisco Waterfront Fills, G. Wayne Clough and Jean-Lou Chameau, GT Apr. 83, p491-506.

Harbor facilities

Advances in Geotechnical Engineering for Marine Terminal Facilities, E. E. Rinne, W. H. Roth and R. M. Moline, (Proceedings of Ports 83, Kong Wong, ed., 1983), p284-298.

Engineering and Planning Considerations for Boating Facilities Siting on the California Coast, Susan H. Anderson, (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p2859-2865.
Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309.
Geotechnical Engineering, Design and Construction, Port of Oakland, Mahmut Otus, Gerald M. Serventi Port of Oakland, Mahmut Otus, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p129-140.
Modernization and Upgrading of Shoreside Container Cranes, William L. Casper, (Proceedings of Ports 83, Kong Wong, ed., 1983), p107-113.
Modernization of Alaska's Fishing Harbors, Orson P. Smith, (Proceedings of Ports 83, Kong Wong, ed., 1983), p599-611.
Operational Procedures Richards Ray, Harbour, J. A.

Operational Procedures Richards Bay Harbour, J. A. Zwamborn and P. J. Cox, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2700-2722. Planning Redevelopment and Modernization-Port of

Oakland, Paul H. Sorensen, (Proceedings of Ports 83, Kong Wong, ed., 1983), p62-73.

The Response of Small Craft to Wave Action, M.

Isaacson and A. G. Mercer, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2723-2742. West Breakwater-Sines Overview of Rehabilitation and

Synthesis of Project, J. F. Toppler, A. Steenmeyer, M. A. Goncalves da Silva, H. Ligteringen and F. Silveira Ramos, (Coastal Structures '82, J. R. Weggel, ed., 1983), p3-16.

Harbor structures

Monitoring of a Dolos Armor Cover; Cleveland, OH, Joan Pope and Denton R. Clark, Jr., (Coastal Structures '83, J. R. Weggel, ed., 1983), p193-207. Prevention of Shoaling at Port Orford, Oregon, C. E. Chatham, HY Nov. 81, p1303-1316.

The Alaska Coastal Data Collection Program, Orson P. Smith, David L. Kriebel and James T. Bales, (Coastal Zone '83. Orville T. Magoon, et al., eds., 1983). p1153-1167.

Coastal Engineering in South Africa, K. S. Russell, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p2322-2331.

Construction Sequence Modelling for Harbour Breakwater, Roger W. Hendry, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1765-1785.

Deepening Los Angeles Harbor, Daniel Muslin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p227-233.

Dolos Stability Effect of Block Density and Waist Thickness, D. J. P. Scholtz, J. A. Zwamborn and M. van Niekerk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2026-2046.

Dredging to Minimize Wave Penetration into a Harbour, H. P. Riedel and A. P. Byrne, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed.,

1983), p1514-1521.

Durban Beaches Reclamation: Practical Aspects, K. A. Barnett, (Proceedings of Coastal Engineering 82, Billy

L. Edge, ed., 1983), p1970-1991.
Evolution of a Small Fishing Harbor: Bodega Bay, California, Philip Cline and Norman Swenson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p516-517.

Gansbaai Fishing Harbour—The Design and Con-struction of a Breakwater on a Hostile Coast, W. S. Van Dijk, A. P. M. Vonk and G. de F. Retief, (Proceedings of Coastal Engineering 82, Vol. II, Billy

L. Edge, ed., 1983), p1716-1732.

Harbour Sedimentation—Comparison with Model, B. D. Pratte, D. H. Willis and J. Ploog, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed.,

Coastal Engineering of, voi. 11, Billy L. Edge, co., 1983), p1119-1126.
Integrated Management of San Diego Bay: A Socio-Ecological Challenge, Tomas E. Firle, (Coastal Zone 33, Orville T. Magoon, et al, eds., 1983), p1714-1733.
The Motions of a Moored Ship in a Harbor Basin, T.

Sawaragi and M. Kubo, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2743-2762. Numerical Calculation of Seiche Motions in Harbours of Arbitrary Shape, P. Gaillard, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1982), p272, 1911.

1983), p172-191. Numerical Model Study of Temperature Distributions in a Harbour, Roger A. Falconer, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p454-472.

Operational Procedures Richards Bay Harbour, J. A. Zwamborn and P. J. Cox, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2700-2722.

Optimization of Channel Maintenance Expenses, Anatoly B. Hochstein, Ronald Guido and Ivan Zaba-

loieff, WW Aug. 83, p310-322. Resonance in South African Harbours, W. A. M. Botes, K. S. Russell and P. Huizinga, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p439-453.

Simulation of Large-Scale Circulation in Harbors, Wen-Li Chiang and Jiin-Jen Lee, WW Feb. 82,

p17-31.

Wave-Induced Ship Motions in Harbour Entrances—A Field Study, A. C. van Wyk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p.2681-2699. Yacht Harbours in the United Kingdom, J. D. Mettam,

P. C. Mornement and J. G. Berry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2332-2341.

Hazardous materials

Developing a Risk Management Program for Ports, Suzanne Rogalin, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p319-335.

Toxic Torts, Jerry Ross, (Emerging Energy/Environ-mental Trends and the Engineer, Ronald D. Neufeld,

et al. eds., 1983), p11-14.

Hazardous waste

Analysis of the Impacts of a Hazardous Waste Disposal Site on a Public Water Supply Well Field, David A. Woodruff, Richard J. Hughto and Brendan M. Harley, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p751-757. Arresting a Toxic Plume, Allen Morrison, CE Aug. 83, p35-37

Buried Waste Characterization Using Air Monitoring Instrumentation, David Lipsky, (National Conference on Environmental Engineering, Allen Medine, et al,

eds., 1983), p861-866. California and EPA Hazardous Waste Regulations, Ronald M. Block and Robert M. Kennedy, El Jan.

83, p10-17

Cleanup of the Miami Drum Hazardous Waste Site, Udai P. Singh, Thomas C. Emenhiser, J. I. Garcia-Bengochea and James E. Orban, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p758-765.

Direct Gas Emission Measurement Techniques and the Utilization of Emissions Data from Hazardous Waste Sites, Charles E. Schmidt and W. David Balfour, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p690-699. Engineering Parameters for Soil Treatment of Poly-

nuclear Aromatic Compounds, Ronald C. Sims and M. R. Overcash, (National Conference on Environ-mental Engineering, Allen Medine, et al, eds., 1983),

p479-485.

Environmental Behavior Classification of Chemicals, Environmental Benavior Classification of Chemicas, N. E. Bell, D. S. Sklarew, D. C. Powell, C. J. English, Jr., Craig R. A. and L. C. Raniere, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), pc23-229.

EPA and DOD Set Rules for Cleanup of Military

Wastes, CE Oct. 83, p10.

EPA's New Land Disposal Rules—A Closer Look,
Allen Morrison, CE Jan. 83, p44-49. Hazardous Waste Landfill: Some Lessons from New Jersey, Peter Montague, CE Sept. 82, p53-56

Land Treatment of Hazardous Waste, Allen Morrison. CE June 83, p33-38.

Linear Programming in Hazardous Waste Manag ment, J. Jeffrey Peirce and Gordon M. Davidson, EE Oct. 82, p1014-1026. The Liner Design Process for Landfills and Surface Impoundments, Glenn N. Coffman, (National Con-

ference on Environmental Engineering, Allen Medine, et al, eds., 1983), p350-357.

Lining a Pond to Contain Uranium Tailings, Richard Baldwin, CE Jan. 83, p77-79.

List of Nation's Toxic Dumps Released, CE Feb. 83,

Measurements of Hydraulic Conductivity for Evaluation of Subsurface Movement of Hazardous Wastes, R. Jeffrey Dunn, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

Minnesota's Hazardous Waste Siting Criteria, Alan P. Shilepsky and Robert B. Pulford, WR Apr. 83,

p165-173.

A New Approach for Siting Waste Facilities, D. L. Caputo, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

p15-18.
OMB Outlines Rules for Toxic Wastes on Federal Sites, CE July 83, p8.

The Role of the Port within the Logistical System Supporting Incinerator Ships, Henry S. Marcus, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Secure Landfills—Hopes and Fears, Lyse D. Helsing and Thomas T. Shen, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p670-679.

Superfund and the Corps of Engineers, Stanley L Carlock, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al. eds., 1983), p40-45.

Survey of Operating Hazardous Waste Facilities in Europe and North America, Steve E. Hrudey, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p210-217.

Voc Emission Research Program for Hazardous Waste Treatment and Disposal Facilities, Stephen C. James, (National Conference on Environmental Engineering,

Allen Medine, et al., eds., 1983), p660-661.
Water Quality and Waste Disposal Regulatory Trends
Affecting Utilities, James W. Lingle, (Emerging
Energy/Environmental Trends and the Engineer,
Ronald D. Neufeld, et al, eds., 1983), p29-31.

Hazardous waste sites

Radar Measures the Extent of Tainted Michigan Site, CE Oct. 83, p10.

Superfund and the Corps of Engineers, Stanley L. Carlock, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

Head Loss at Soil-Drain Envelope Interfaces, David W.
Miller and Lyman S. Willardson, IR June 83, p211-220.

Small Stream Channel Dam Aeration Characteristics, Thomas A. Butts and Ralph L. Evans, EE June 83, p555-573.

Headwalls

Headwall Influence on Scour at Culvert Outlets, Cesar Mendoza, Steven R. Abt and James F. Ruff, HY July 83, p1056-1060.

Headwaters

Urban Headwater Flooding Damage Potential, Larry T. Lee and Thomas Essex, HY Apr. 83, p519-535.

Asbestos Control Program for Institutional Facilities, Mark D. Ryckman, DeVere W. Ryckman and Jeffrey L. Peters, EE Apr. 83, p275-288. In Third World Villages, a Simple Handpump Saves Lives, Allen Morrison, CE Oct. 83, p68-72. Role of Risk Analysis in Health Policy, Paolo Ricci, Abe Silvers and Ronald Wyzga, (Emerging Ener-transparent Contract and the Contract of the Contract of

gy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p19-23.

Heat exchangers Heat Extraction from Salt-Gradient Solar Pond, Koichi Kinose, EY Sept. 83, p152-164.

Heat Loss from Rapid Infiltration Basin in Winter, Heinz G. Stefan, EE Feb. 82, p141-158.

Spacing of Wells for Heat Pumps, Calvin G. Clyde and Govindachari V. Madabhushi, WR July 83, p203-212. Thermal Storage, Now and Future, CE Dec. 83, p42-45.

Heat storage

Mechanics of Soil-Heat Interaction and Its Thermal Storage Capacity, Hsai-Yang Fang and Ronald C. Chaney, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p786-789.

Calculation of Coaxial Heated Water Discharge, Michael A. Leschziner and Wolfgang Rodi, HY Oct. 83, p1380-1385.

Element-by-Element Implicit Algorithms for Heat Conduction, Thomas J. R. Hughes, Itzhak Levit and

James Winget, EM Apr. 83, p576-585.

Heat Conduction through Layered Refractory Linings,
Oral Buyukozturk and Tsi-Ming Tseng, EM Aug. 83, p1000-1015.

Heated water discharge Calculation of Coaxial Heated Water Discharge, Michael A. Leschziner and Wolfgang Rodi, HY Oct.

83, p1380-1385.

Heated Discharge in an Estuary: Case Study, James B. Nystrom, George E. Hecker and Han C. Moy, HY Nov. 81, p1371-1406.

Temporary Heating in Construction Contracts, Haim Schlick, CO Dec. 83, p447-459.

Design of Natural Attenuation Landfills, Amalendu Bagchi, EE Aug. 83, p800-811.

Heavy Metal Distribution and Interactions in the White River Ecosystem, Allen J. Medine, Vincent A. Lamarra and John G. Carter, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p867-877.

Waste Load Allocation Model of Heavy Metals in Flint River, Michigan, William L. Richardson, Joseph V. DePinto and Charles Delos, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p500-508.

High frequency excitations Stiffness Control Using High Frequency Excitations, Michail Zak, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p331-334.

High strength concrete

Stress Distributions in Higher Strength Concrete Beams, A. Nikaeen and S. E. Swartz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p549-552.

High strength concretes Complete Triaxial Stress-Strain Curves for Concrete, Shuaib H. Ahmad and Surendra P. Shah, ST April 82, p728-742.

Structural Trends in New York City Buildings, Eugene E. Dallaire, CE Jan. 83, p30-37.

Highway safety Roadway Design and the Impact on Safety, David K. Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p23-32.

Highway accident potential

Proceedings of the Conference on the Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983, 207pp.

Technique for Identifying Problem Downgrades, Ronald W. Eck, TE July 83, p604-610. Traffic Control at Freeway Work Sites, Zoltan A.

Nemeth and Nagui M. Rouphail, TE Jan. 83, p1-15. Highway construction

Biological Effects of Highway Fills, Gary D. Miller, Larry W. Canter and Joakim G. Laguros, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p374-386.

Cooling Curve Prediction of Asphaltic Concrete, R. Kenneth Wolfe, George L. Heath and David C. Colony, TE Jan. 83, p137-147.
FHWA Expands State Matching Fund Rules, CE July

83, p16.

Glenwood Canyon I-70: Environmental Concern, Ralph J. Trapani and Eric A. Beal, TE May 83, p403-413.

Highway Projects -- Can They Be Done in Half the Time? Corinne S. Bernstein, CE Sept. 83, p50-54. Inflation and Highway Economic Analysis, Philip D.

Cady, TE Sept. 83, p631-639.

Long-Range Forecasting Highway Construction Costs, Zohar Herbsman, CO Dec. 83, p423-434.

Pedestrian Safety Through Work Zones: Guidelines, Himmat S. Chadda and Hugh W. McGee, TE Nov. 83, p785-799.

Prediction of Highway Construction Noise Levels, William Bowlby and Louis F. Cohn, CO June 83, p163-180.

Traffic Control at Freeway Work Sites, Zoltan A Nemeth and Nagui M. Rouphail, TE Jan. 83, p1-15.
Traffic Planning for Edens Reconstruction Project,
Sigmund C. Ziejewski, TE Jan. 83, p159-171.

Highway costs Federal Fuel Tax Hike Spurs State Highway Spending,

CE Oct. 83, p10.
Inflation and Highway Economic Analysis, Philip D. Cady, TE Sept. 83, p631-639.

Long-Range Forecasting Highway Construction Costs,

Zohar Herbsman, CO Dec. 83, p423-434. Pavement Management Systems: Selecting Mainte-nance Priorities, Fred N. Finn, CE Sept. 83, p55-59. Urban Highway Financing Mechanisms and Policies, Gary E. Maring, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983),

Highway design

Are basic Engineering Assumptions About the Driver Valid? - Hugh W. McGee and Kevin G. Hooper, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p45-53. Environmental Impact Assessment: Highway Location,

Frank R. Wilson and Donald L. Stonehouse, TE

Nov. 83, p759-768.
Glenwood Canyon I-70: Environmental Concern,
Ralph J. Trapani and Eric A. Beal, TE May 83, p403-413

In-Service Evaluation of Roadside Hardware, Donald L. Woods, (The Role of the Civil Engineer in Highwa Safety, MMartin E. Lipinski, ed., 1983), p82-91. Liability and Highway Design, George L. Reed, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p179-190.

Photogrammetric Mapping for Highways, Roger R. Chamard, SU March 83, p1-5. Proceedings of the Conference on the Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed.,

1983, 207pp.

Roadway Design and the Impact on Safety, David K. Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p23-32.

Highway economic factors

Highway User Fee Boosts U.S. Economy, CE Dec. 83, Pavement Management Systems: Selecting Mainte-nance Priorities, Fred N. Finn, CE Sept. 83, p55-59.

Highway engineering

The Highway Engineer and Ethical Responsibility, Gerald Donaldson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p200-204.

Highway Projects -- Can They Be Done in Half the Time? Corinne S. Bernstein, CE Sept. 83, p50-54. Houston Moves to Unravel Traffic, Merja Lehtinen, CE

Nov. 82, p60-63.

Highway environmental impact

Glenwood Canyon I-70: Environmental Concern, Ralph J. Trapani and Eric A. Beal, TE May 83,

p403-413.

Highway Projects -- Can They Be Done in Half the Time? Corinne S. Bernstein, CE Sept. 83, p50-54. More Delays for New York Super Highway, CE Nov. 83, p10.

Highway environmental impacts Environmental Impact Assessment: Highway Location, Frank R. Wilson and Donald L. Stonehouse, TE Nov. 83, p759-768.

Highway improvements FHWA Cuts Red Tape for Road Projects, CE Aug. 83,

Highway Improvement Programs and Liability, John L. Grubba, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p170-178. Highway Safety and R-R-R, Gerald Donaldson, (The Role of the Civil Engineer in Highway Safety, Martin

E. Lipinski, ed., 1983), p130-137. Methods Used to Evaluate Highway Improvements,

James M. Witkowski, TE Nov. 83, p769-784.
Traffic Planning for Edens Reconstruction Project,
Sigmund C. Ziejewski, TE Jan. 83, p159-171.

Arizona's Statewide Pavement Management System, Kumal Golabi and Ram Kulkarni, CE Apr. 83, p43-47.

Enhancing Highway Safety Through Maintenance and Operations, Louis B. Stephens, Jr., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p138-142. FHWA Expands State Matching Fund Rules, CE July 83, p16.

Florida DOT Studies Legalities of Road Warranties,

CE Oct. 83, p10.
Georgia's Low-Cost Approach to Rehabilitating Concrete Pavements, CE Aug. 83, p50-54.
Highway Rehab Conference Stresses New Materials

and Processes, CE Jan. 83, p81. Highway Safety and R-R-R, Gerald Donaldson, (The

Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p130-137. Inflation and Highway Economic Analysis, Philip D.

Cady, TE Sept. 83, p631-639. Pavement Management for Large Highway Networks,

Walter P. Kilareski and Charles J. Churilla, TE Jan. 83, p33-45.

Pavemen. Management Systems: Selecting Mainte-nance Priorities, Fred N. Finn, CE Sept. 83, p55-59, Traffic Planning for Edens Reconstruction Project, Sigmund C. Ziejewski, TE Jan. 83, p159-171.

Highway management Arizona's Statewide Pavement Management System, Kumal Golabi and Ram Kulkarni, CE Apr. 83, p43-47.

Enhancing Highway Safety with Limited Resources, Harold C. King, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p143-147.

Pavement Management Systems: Selecting Mainte-nance Priorities, Fred N. Finn, CE Sept. 83, p55-59.

Highway planning

Environmental Impact Assessment: Highway Location, Frank R. Wilson and Donald L. Stonehouse, TE Nov. 83, p759-768.

Methods Used to Evaluate Highway Improvements, James M. Witkowski, TE Nov. 83, p769-784. Washington D.C. Suburban I66—Unique Compromise

in Expressway Design, John N. Hummel, CE Dec. 82,

Highway safety Civil Engineer's Responsibility for Highway Safety, David K. Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p196-199.

Conference Illuminates Highway Safety, CE Aug. 83,

Enhancing Highway Safety Through Maintenance and Operations, Louis B. Stephens, Jr., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p138-142.

Enhancing Highway Safety with Limited Resources, Harold C. King, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983),

p143-147.

Evolution of Highway Safety Legislation, James E. Wilson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p3-13.

Information to Support Highway Safety Decisions,
Patricia F. Waller, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983),

Minisized Automobiles and Roadside Appurtenances, John F. Carney, III, TE Nov. 83, p815-823. Proceedings of the Conference on the Role of the Civil

Engineer in Highway Safety, Martin E. Lipinski, ed.,

The Responsibility of the Civil Engineer to the Drinking Driver, Hall, Thomas A., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p113-120. The Responsibility of the Civil Engineer, Howard L.

Anderson, (The Role of the Civil Engineer in Highwa Safety, Martin E. Lipinski, ed., 1983), p191-192. The Responsibility of the Civil Engineer in Highway

Safety, Jack Humphreys, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p193-195

The Role of the FHWA in Highway Safety, E. Dean Carlson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p14-22.

Technique for Identifying Problem Downgrades, Ronald W. Eck, TE July 83, p604-610.

Highway structures

Analysis and Design of Safety Appurtenances by Computer Simulation, Hayes E. Ross, Jr., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p54-71.

Highway transportation
Energy Efficiency of Arctic Transportation Systems,
Derek M. Sherman and Edwin M. Rhoads, EY Dec. 83, p236-246.

Highway usage Information to Support Highway Safety Decisions, Patricia F. Waller, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p162-169.

Highways

Forecasting Intersection Traffic Volumes, Martin G. Buehler, TE July 83, p519-533.

Houston Moves to Unravel Traffic, Merja Lehtinen, CE

Nov. 82, p60-63. Loading Mode Effects on Pavement Deflections, Mario

S. Hoffman, TE Sept. 83, p651-668.
On Infrastructure (ltr.), P. E. Cunningham, CE Feb. 83,

p22. Pollutant Loading Model for Highway Runoff, Tai Wik

Chui, Brian W. Mar and Richard R. Horner, EE Dec.

St., philas-1210.

Total Suspended Solids in Highway Runoff in Washington State, Randy Asplund, Brian W. Mar and John F. Ferguson, EE April 82, p391-404.

Hinges

Torsion Tests of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1780-1791.

ASCE Names Suspension Bridge National Landmark, CE June 83, p64.

Brooklyn Bridge, CE June 83, p42-47.
Celebration Caps Off Brooklyn Bridge Centennial, CE
April 83, p70. Historic 200-Ton Timber Truss Bridge Rolled to the

Side, CE Apr. 83, p14. Historic Bridges, Peter Stott, CE Oct. 83, p32.

In Search of Ancient Engineers, George F. Sowers, CE

Oct. 83, p46-50. Old Sewer Line Restored, Leaving Historic Site Intact, CE April 83, p13-14.

Park Service Considers Facelift for Miss Liberty, CE

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Rehabbing Historic Buildings, CE Oct. 83, p56-59. Stamp Commemorates Brooklyn Bridge Centennial, CE June 83, p68.

History

Column Buckling Theory: Historic Highlights, Bruce G. Johnston, ST Sept. 83, p2086-2096. Dirt and Steam, W. R. Carter, CE Nov. 83, p51-54. In Search of Ancient Engineers, George F. Sowers, CE

Oct. 83, p46-50.

On the Derivation of Harmonic and Neutral Holes, Gordon S. Bjorkman, Jr. and Rowland Richards, Jr., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p463-466.

Horizontal flow

Two-Dimensional Exponential Infiltration Equations, Yu-Si Fok, Sang-Ok Chung and Clark C. K. Liu, IR Dec. 82, p231-241.

Hot film anemometers

Dynamic In-Situ Calibration of Hot Film, M. Satyanarayana and K. Elango, WW Feb. 83, p133-137.

Implied Warranty, House and Lot, CE Oct. 83, p27.

Housing

Water Quality Impacts Associated with Residential Development in the Coastal Zone Areas of Atlantic County, New Jersey, Gary L. Bickle, (Coastal Zon '83, Orville T. Magoon, et al, eds., 1983), p2739-2753.

Human factors
Human Factors Affecting Rocky Intertidal Fishes, John
R. Moring, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1572-1585.

Human rights

Metropolitan Section Plans Human Rights Subcommittee, CE June 83, p70.

Hurricanes

Coordination for Coastal Hazard Response, Sandra Barrett, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2571-2577.

Hurricane Preparedness Planning Federal Assistance to State and Local Governments, Eugene P. Zeizel, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

(Coastal Zone 33, Orvine 1. Magoon, et al, eus., 1983), p.2037-2044.

Joint Probability Method in Barrier Island Systems, Richard A. Schmalz, Jr., WW May 83, p.222-235.

Nearshore Wave Spectra Measured during Hurricane
David, Michel K. Ochi and Ming-Hsing Chiu,
(Proceedings of Coastal Engineering 82, Vol. 1, Billy L.

(Proceedings of Coastal Engineering 82, Vol. 1, Bully L. Edge, ed., 1983), 971-86.

A Numerical Water Level Model for Lake Okeechobee, Richard A. Schmalz, Jr., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 9586.

A Process-Response Model for Hurricane Washovers,

A Process-Response Model for Hurricane Washovers, John R. Suter, Dag Nummedal, Amy K. Maynard and Paul Kemp, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1459-1478. Study of Hurricane Waves around the Taiwan Coast, Hou Ho-Shong, S. C. Kuo and R. S. Tseng, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ad. 1983), 357-360.

Edge, ed., 1983), p357-369. Synthesis of Hurricane Response Hydrographs, Rodney

Synthesis of Hurricane Response Hydrographs, Rodney J. Sobey, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p108-128. Wind Speed-Damage Correlation in Hurricane Frederic, K. C. Mehta, J. E. Minor and T. A. Reinhold, ST Jan. 83, p37-49. Wind-Induced Cladding Loads in Hurricane-Proce Regions, Emil Simiu and Martin E. Batts, ST Jan. 83,

Hydraulic conductivity

Green-Ampt Infiltration Parameters from Soils Data, Walter J. Rawls, Donald L. Brakensiek and Norman Miller, HY Jan. 83, p62-70.

Measurements of Hydraulic Conductivity for Evaluation of Subsurface Movement of Hazardous Wastes, R. Jeffrey Dunn, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p892-897.

Vadose Zone Permeability Tests: Steady State Results, Daniel B. Stephens and Shlomo P. Neuman, HY May

82, p640-659.

Vadose Zone Permeability Tests: Unsteady Flow, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p660-677.

Hydraulic design

Graphic Input Improves Hydraulic Network Analysis, William S. Alper, T. David Pay and Marshall H. Smith, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p46-49

Willow Creek Inlet, Wallace A. English and Larry D. Simpson, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p159-164.

Hydraulic engineering Conference to Highlight Hydraulics, CE July 83,

Proceedings of the Conference on Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983, 617pp.

Hydraulic gradients

Bifurcation Applications in Combined Sewer Regu-lating Devices, Peter J. Tavino, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p572-577. Exit Gradient in Anisotropic Porous Medium, Govinda Chandra Mishra and A. Siva Reddy, HY June 83,

p897-904 Head Loss at Soil-Drain Envelope Interfaces, David W. Miller and Lyman S. Willardson, IR June 83, p211-220.

Hydraulic jump
Circular Hydraulic Jump, John D. Lawson and Brett C.
Phillips, Hy Apr. 83, p505-518.
Internal Flow in Hydraulic Jumps, John A. McCorquodale and Abdelkawi Khalifa, HY May 83, p684-701. Time Scale for Scour Downstream of Hydraulic Jump, Javad Farhoudi and Kenneth V. H. Smith, HY Oct. 82, p1147-1162.

Hydraulic loading

Rotating Biological Contactor System Design, Yeun C.

Wu and Ed D. Smith, EE June 82, p578-588.

Temperature Effects on RBC Scale-Up, Yeun C. Wu, Ed. D. Smith and Chiu Y. Chen, EE Apr. 83, p321-331.

Hydraulic models
Breakage of Concrete Armor Units, Dennis G. Markle and D. D. Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2216-2238.

EBDA Outfall Meets Challenges of San Francisco Bay,

H. B. Tennant, D. G. Gray and O. Fenton, (Pipelines in Adverse Environments II. Mark Pickell, ed., 1983). p639-649.

Hydraulic Model Testing of an Arctic Seawater Intake Structure, Jack C. Cox and Jerry L. Machemehl, (Coastal Structures '83, J. R. Weggel, ed., 1983), p532-550.

Hydraulic Modeling for Waste Stabilization Ponds, Raymond A. Ferrara and Donald R. F. Harleman, EE Aug. 81, p817-830.

Investigations on Orbital Velocities and Pressures in Irregular Waves, K.-F. Daemrick, W.-D. Eggert and H. Cordes, (Proceedings of Coastal Engineering 82,

Vol. I, Billy L. Edge, ed., 1983), p297-311.

Modeling Hydraulic Phenomena: A Glossary of Terms,
ASCE Task Committee on Glossary of Hydraulic Modeling Terms of the Committee on Research of the Hydraulics Division, (J. W. Kamphuis, chmn.), HY July 82, p845-852. Modeling of Slide-Generated Waves in a Reservoir, M.

Hanif Chaudry, Albert G. Mercer and David Cass, HY Nov. 83, p1505-1520.

Prevention of Shoaling at Port Orford, Oregon, C. E.

Chatham, HY Nov. 81, p1303-1316.

Pump-Sump Design Experience: Summary, Charles E. Sweeney, Rex A. Elder and Duncan Hay, HY March 82, p361-377.

Three-Dimensional Marine Models for Impact Studies, Jacques C. J. Nihoul and Francois C. Ronday, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p745-764.

Hydraulic properties
Modeling Water Movement through Sanitary Landfills,
Alexander C. Demetracopoulos and George P.
Korfiatis, (Frontiers in Hydraulic Engineering, Hung
Tao Shen, ed., 1983), p54-59.
Turbulent Underflow in a Short Channel of Limited

Depth, Raouf E. Baddour and Harry Abbink, HY May 83, p722-740.

Hydraulic servomechanisms
New Chicago-Type Bascule Bridge, Henry Ecale and
Tsin-Hwei Lu, ST Oct. 83, p2340-2354.

Advances in Risk and Reliability Analysis for Hydraulic Structures, Han-Lin Lee and Larry W. Mays, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p467-473.

Arroyo Engineering in an Urban Environment, Richard J. Heggen, UP May 83, p1-6. Board Approves Award for Hydraulic Structures, CE Dec. 83, p65.

Comparison of Open Channel Constriction Rating Abbas A. Fiuzat and Gaylord V. Skogerboe, HY Dec. 83, p1589-1602.

Design of Aeration Devices on Hydraulic Structures, F. G. DeFazio and C. Y. Wei, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p426-431. Exit Gradient in Anisotropic Porous Medium, Govinda Chandra Mishra and A. Siva Reddy, HY June 83,

Prevention of Cavitation on Chutes and Spillways, Henry T. Falvey, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p432-437.

Proceedings of the Conference on Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983,

Hydraulic transients

Transient Cavitating Pipe Flow, Victor L. Streeter, HY Nov. 83, p1407-1423.

Transient Mixed-Flow Models for Storm Sewers, C. S. Song, James A. Cardle and Kim Sau Leung, HY Nov. 83, p1487-1504.

Hydraulics

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Asymptotic Solution for Dam Break on Sloping Channel, Bruce Hunt, HY Dec. 83, p1698-1706. Characteristics Method Using Time-Line Interpolations, David E. Goldberg and E. Benjamin Wylie, HY May 83, p670-683.

Computer Method in Hydraulics, Zeng Bong-Ming, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

conformal Mapping for Channel Junction Flow, Pashupati N. Modi, Pitamber D. Ariel and Mohan M. Dandekar, HY Dec. 81, p1713-1733. Diffusion of Bluff Wall Jets in Finite Depth Tailwater,

Nallamuthu Rajaratnam and Joseph A. Humphries, HY Nov. 83, p1471-1486.

Documentation of Hydraulic Software, A.S.C.E. Task Committee on the Documentation of Hydraulic Software, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p301-305.
Evaluating Energy Exchange Benefits Using the Existing Reservoir Systems In the United States, Gordon B. Freeny, Mike S. Cowen and Larry Y. Shiao, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p100-124.

Experiments on Starting Homogeneous Jets, John D. Demetriou, HY July 83, p1039-1044.
Flexible Dams Inflated by Water, Nicholas Manville

Hitch and Rangaswami Narayanan, HY July 83, p1044-1048. Heat Extraction from Salt-Gradient Solar Pond, Koichi

Kinose, EY Sept. 83, p152-164. Hydraulics of Plane Free Overfall, Willi H. Hager, HY

Dec. 83, p1683-1697. The Microcomputer and Pipeline Transients, E. Ben-jamin Wylie, HY Dec. 83, p1723-1739.

Modeling Hydraulic Phenomena: A Glossary of Terms, ASCE Task Committee on Glossary of Hydraulic Modeling Terms of the Committee on Research of the Hydraulics Division, (J. W. Kamphuis, chmn.), HY July 82, p845-852.

Proceedings of the Conference on Frontiers in Hy-

draulic Engineering, Hung Tao Shen, ed., 1983, 617pp.

Reflections on Rivers, Research, and Rouse, John F.

Kennedy, HY Oct. 83, p1253-1271. River-Bend Bank Protection by Submerged Vanes, A. Jacob Odgaard and John F. Kennedy, HY Aug. 83,

p1161-1173. Schwarz-Christoffel Theory of Flow Past an Opening Cheng-lung Chen and Ming-Yang Su, EM April 82,

p399-418.

Transverse Mixing in Wide and Shallow River: Case Study, Alexander C. Demetracopoulos and Heinz G. Stefan, EE June 83, p685-699. Uniform Region of Self-Aerated Flow, Ian R. Wood,

HY March 83, p447-461.

Hydrocarbons

Containment of a Natural Hydrocarbon Seep in Santa Barbara Channel, J. B. Hundley, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1261.

Hydrocarbon Facility Siting in Northern Canada, Heather M. Myers, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1781-1789.

Hydrodynamic configurations

Flow around Fixed Circular Cylinders: Fluctuating Loads, Cesar Farell, EM June 81, p565-588.

Forces Acting on Floc and Strength of Floc, Tomonori Matsuo and Hideaki Unno, EE June 81, p527-545.

Hydrodynamic pressure

Boundary Element Analysis of Fluid Domain, Youssef G. Hanna and Jagmohan L. Humar, EM April 82,

Dynamic Analysis of Arch Dams Including Hydrodynamic Effects, John F. Hall and Anil K. Chopra.

EM Feb. 83, p149-167.
Finite Element Analysis of Reservoir Vibration, Jagmohan Humar and Magdy Roufaiel, EM Feb. 83,

p215-230.

Hydrodynamic Pressure on Short-Length Gravity Dams, Ahmed A. Rashed and Wilfred D. Iwan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1162-1165.

Approach-Flow Effects on Downpull of Gates, Nguyen D. Thang and Edward Naudascher, HY Nov. 83; p1521-1539.

Baton Rouge and New Orleans Deep Water Draft to Gulf of Mexico, A. A. Hannoura and E. P. Russo, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1032-1040.

Boundary Element Analysis of Fluid Domain, Youssef G. Hanna and Jagmohan L. Humar, EM April 82,

Computer Color Animation of Hydrodynamic and Transport Modal Predictions, Charles Libicki and Keith W. Bedford, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p585.

Conformal Mapping for Channel Junction Flow, Pashupati N. Modi, Pitamber D. Ariel and Mohan M. Dandekar, HY Dec. 81, p1713-1733. Continuous Moving Boundary Simulation—Verifica-tion of Finite Element Technique, Daniel R. Lynch, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p330.

Dynamic Advective Water Quality Model for Rivers, Keith W. Bedford, Robert M. Sykes and Charles

Libicki, EE June 83, p535-554.

Dynamic Analysis of Arch Dams Including Hydrodynamic Effects, John F. Hall and Anil K. Chopra, EM Feb. 83, p149-167. Experiments on Starting Homogeneous Jets, John D.

Demetriou, HY July 83, p1039-1044.

Fixed and Floating Axisymmetric Structures in Waves, Michael de St. Q. Isaacson, WW May 82, p180-199. Landsat and Water Quality Model Verification, Donald Steven Graham and John M. Hill, TE Sept. 83. 640-650.

ARM Two-Dimensional Model: An Evaluation, John

A. Gordon, EE Oct. 81, p877-886. Mathematical Modeling of Scour in Streams, David R. Dawdy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p64-69. Modeling Tidal Circulation in Coastal Seas, Malcolm

L. Spaulding and Charles H. Beauchamp, HY Jan. 83, p116-132.

Numerical Modeling Study of Lake Pontchartrain, Glenn D. Hamilton, Cecil W. Soileau and Arthur

Stroud, WW Feb. 82, p49-64.

Parallel Canal Design for Waterfront Development, Frederick W. Morris, IV. Richard S. Tomasello, Damodar S. Airan and Nathan Putchat, EE Feb. 83, p206-218.

Penalty Function for 2-D Hydrodynamic Model, Anish N. Puri and Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p356-361. Reservoir Circulation Patterns and Water Quality,

Byung R. Kim, John M. Higgins and David J.

Bruggink, EE Dec. 83, p1284-1294.
Saltation in Water Dynamics, Peter J. Murphy and Hamid Hooshiari, HY Nov. 82, p1251-1267.

Schwarz-Christoffel Theory of Flow Past an Opening, Cheng-lung Chen and Ming-Yang Su, EM April 82,

Sensitivity of Parameters and Approximations in Models of Tidal Propagation and Circulation, Jan J. Leendertse and Shiao-Kung Liu, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p573-581.

Shoaling Processes in Navigable Waters, Task Com-mittee on Causes and Effects of Shoaling of Navigable Waters of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, (James Neiheisel, chmn.), WW May 83, p199-221.

Short-Term Hydrodynamics in a Stratified Reservoir, John A. Gordon and J. Steven Lane, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p524-531.
Simulation of Large-Scale Circulation in Harbors.

Wen-Li Chiang and Jiin-Jen Lee, WW Feb. 82,

Tests of Small Scale Liquid Storage Tanks, Barry J. S. Liu, Robert H. Kirchhoff and William A. Nash. (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p573-576.

A Three-Dimensional Model of Bering and Chukchi Sea, Shiao-Kung Liu and Jan J. Leendertse, (Proceedings of Coastal Engineering 82, Vol. I, Billy L.

Edge, ed., 1983), p598-616.

Tidal Computation on Taiwan Strait, Fuh Yin and Sen-Ho Chen, WW Nov. 82, p539-553.

Wave Interaction with Large Submerged Structures, Henry William Kidman Bird and Robin Shepherd. WW May 82, p146-162.

Hydroelectric power

Evaluating Energy Exchange Benefits Using the Existing Reservoir Systems In the United States, Gordon B. Freeny, Mike S. Cowen and Larry Y. Shiao, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p100-124.

Lox Dissolved Oxygen Mitigation System for Hydro Project, S. Gordon Marsh, D. Steven Graham and Sally C. Simone, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p398-405.
Proceedings of the Conference on Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983,

Regulation of Missouri River Main Stem Reservoirs, Duane J. Sveum and George A. Patenode, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p94-108.

Small Hydroelectric Development Computer Analysis, Peter W. Soltys, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p406-411.

Hydroelectric power generation Goodwin Dam Hydroelectric Project, Harold Turner, Jr. and John R. Lavigne, Jr., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p595.

Hydro Recovery, CE June 83, p56-57.

Optimal Operation of Multiple Reservoir Systems, Quentin W. Martin, WR Jan. 83, p58-74.

The Potential for Small-Scale Hydro in Developing Countries, Jack J. Fritz, CE Dec. 83, p46-49. Regionalized Flow Duration for Philippines, Rafael G. Quimpo, Angel A. Alejandrino and Thomas A. McNally, WR Oct. 83, p320-330.

Resistance of Beauharnois Canal in Winter, Gee Tsang,

HY Feb. 82, p167-186.

Hydroelectric powerplants
Medium Head Hydro Power House Concrete Volumes, James L. Gordon, EY Dec. 81, p237-254.

Numerical Computation for Flow Regulation of Water Power Stations, Chen Shou Yu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p597.

Powerhouse, CE June 83, p46-47. Prefab Hydro Plant Reduces On-Site Work, CE Dec.

83, pl2.
Rock Engineering: La Grande Complex, Quebec, D.
Kent Murphy and Jerry Levay, GT Aug. 82,

Hydrogen sulfide

Prediction of Sulfide Buildup in Sanitary Sewers, Karl E. Kienow, Richard D. Pomeroy and Kenneth K. Kienow, EE Oct. 82, p941-956.

Hydrogeology

Hydrogeologic Input on Generating Synthetic Flows, Turan Otova, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p514-519.

Hydrogeologic Models for Siting of Waste Facilities,
John F. Clerici and J. Edmund Baker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

Modeling Ground-Water Flow at Love Canal, New York, James W. Mercer, Lyle R. Silka and Charles R. Faust, EE Aug. 83, p924-942.

Hydrographic surveys
Research Needs in Marine Surveying, Harold D.
Palmer, SU April 82, p10-17.

Tidal Corrections in Hydrographic Surveying, Carvel

Blair, WW Feb. 83, p31-40.
Use of Early Hydrographic Surveys in Studies of California Estuaries, Kent G. Dedrick, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2294-2316.

Approximate Error Bounds for Simulated Hydro-graphs, David C. Garen and Stephen J. Burges, HY Nov. 81, p1519-1534. The Curve Number Runoff Model as an Infiltration

Model for Hydrograph Simulation, Michael E. Meadows and Allen L. Chestnut, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p298-307.

Estimating the Time of Concentration of Urban Watersheds, Richard H. McCuen, Stanley L. Wong and Walter J. Rawls, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p547-552.

Finite Element Simulation of Overland Flow, Nathaniel Peters, George Blandford and Michael E. Meadows, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p466-475.

Hydrogeologic Input on Generating Synthetic Flows, Turan Otova, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p514-519.

Improvement of Nonlinear Rainfall-Runoff Model, Otto J. Helweg, Jaime Amorocho and Ralph H. Finch, HY July 82, p813-822.

Nondimensional Comparisons of Reach Routing Methods, Larry M. Younkin, Fred D. Theurer and William H. Merkel, (Frontiers in Hydraulic Engi-

 William H. Merkel, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p594.
 Synthesis of Hurricane Response Hydrographs, Rodney J. Sobey, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p108-128.
 Technique for Estimating Flood Hydrographs for Ungaged Urban Watersheds, V. A. Stricker and V. B. Sauer, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p559.

Hydrologic aspects

Groundwater Effects of Surface Mining in North Dakota, M. R. Fujioka and T. E. Rosengreen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p36-43.

Hydrologic data

Analysis of the USGS Stream-Gaging Program, M. E. Moss and W. O. Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p520-527. Hydrologic Evaluation of Dam Safety, Shou-Shan Fan, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p451-458.

Hydrology at the Frontier-Estimating and Using Inadequate Data, K. Jawed and R. E. Aten, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p513.

Realistic Assessment of Maximum Flood Potentials, Donald W. Newton, HY June 83, p905-918.

Hydrologic models

Assessing Waterlogging Controls 1: Hydrologic Model, H. J. Morel-Seytoux, A. R. Simpson and R. A Young, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p124-133. Cells-In-Series Simulation of Riverine Transport, Heinz

G. Stefan and Alexander C. Demetracopoulos, HY

June 81, p675-697.

Otto J. Helweg, Jaime Amorocho and Raiph H. Finch, HY July 82, p813-822. Modeling Stormwater Storage/Treatment Transients: Theory, Miguel A. Medina, Jr., Wayne C. Huber and Line of the Company of the C

James P. Heaney, EE Aug. 81, p781-797.

A Pragmatic Evaluation of the SCS Hydrologic Methods. Richard H. McCuen. (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p200-207.

Recursive Estimation in Nonlinear Hydrologic Model, Srinivas G. Rao and A. Ramachandra Rao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Weather Modification Potential for Arizona, Larry C. Beddome, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p352-359.

Hydrologic properties
Green-Ampt Infiltration Model Parameters for Hydrologic Classification of Soils, Donald L. Brakensiek and Walter J. Rawls, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p226-233.

Design, Programming and Maintenance of HSPF, Robert C. Johanson and John L. Kittle, TC Apr. 83, p41-57.

Documentation of Hydraulic Software, A.S.C.E. Task

Committee on the Documentation of Hydraulic Software, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p301-305. Estimating Log Pearson Parameters by Mixed Mo-

ments, Donthamsetti Veerabhadra Rao, HY Aug. 83,

p1118-1132.

Gumbel's Extreme Value 1 Distribution: A New Look, Dennis P. Lettenmaier and Stephen J. Burges, HY April 82, p502-514.

Practical Method of Estimating Peak Flow, Beni P. Sangal, HY Apr. 83, p549-563.

Precipitation in Southern Nevada, Richard H. French,

HY July 83, p1023-1036.

Proceedings of the Conference on Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983,

Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp.

Rainfall Intensity-Duration-Frequency Formulas, Cheng-lung Chen, HY Dec. 83, p1603-1621.
Regionalized Flow Duration for Philippines, Rafael G.
Quimpo, Angel A. Alejandrino and Thomas A.
McNally, WR Oct. 83, p320-330.

Hydrostatic compression Elastic and Plastic Strain Properties of Sand, Chin-Su Ting, GT May 82, p787-793.

Hydrostatic pres

Collapse of Thick Wall Pipe in Ultra Deep Water, Edward A. Verner, Carl G. Langner and Michael D. Reifel, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p159-187.
Design of Vertical Chords in Deepwater Platform, Shouji Toma and Wai F. Chen, ST Nov. 83,

p2733-2746.

External Pressure and Sectional Behavior of Fabricated Tubes, Shouji Toma, Wai F. Chen and Lyle D. Finn, ST Jan. 82, p177-194.

Miter-Type Navigation Lock Gates, Ming Der Cherng Michael K. Phang and Chin Hao Chang, ST Oct. 83, p2235-2247.

Hyetographs

Annotated Bibliography on Urban Design Storms, Urban Water Resources Research Council of the American Society of Civil Engineers, 1983, 41pp.

Endochronic Description of Sand Response to Static Loading, Han C. Wu and T. P. Wang, EM Aug. 83, p970-989

Hysteresis Identification of Existing Structures, Sassan

Toussi and James T. P. Yao, EM Oct. 83, p1189-1202.
Truck Suspension Models, Krishnan Kutty Kunjamboo and Colin O'Connor, TE Sept. 83, p706-720.

A Method for Estimation of Hysteretic Force Parameters, R. H. Sues, S. T. Mau and Y. K. Wen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p311-314.

Elastic Buckling of Laterally Continuous I-Beams, Peter F. Dux and Sritawat Kitipornchai, ST Sept. 82,

p2099-2116.

Elastic Stability of I-Beam under Patch Loadings, Toma and Takashi Mikami, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1126-1129. Yoshihiro Takahashi, Sumio G. Nomachi, Shouji

Lateral Stability of Beams on Seats, Mark A. Bradford and Nicholas S. Trahair, ST Sept. 83, p2212-2215. Ultimate Strength Analysis of Curved I-Beams, Hiroshi Yoshida and Kouji Maegawa, EM Feb. 83, p192-214.

Ice and Snow Utilization in Cold Regions Construction, Kelly Crick and John D. McClellan, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983),

Lice Pond Cooling System for Power Plants, Arthur C. Miller, Jorge A. Pena, John Urbsanski and Sonja N. Kerr, EY Sept. 83, p199-206.

Modeling of Ice Discharge in River Models, Darryl J. Calkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p285-290.

Niagara River Ice Boom: Effects on Environment, Ralph R. Rumer, Jr., Wayne F. Bialas, Frank H. Quinn, Raymond A. Assel and David W. Gaskill, TC

Aug. 83, p105-116. Simulation of Lake Ice Dynamics, Ralph R. Rumer, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p236-241.

Ice cover

Analysis of the Variation of River Stage in the Freezing Season for Some Cases on the Yellow River, Chen Zanting, Sun Zhaochu and Wang Wencai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p248-253.

Effects of an Ice Cover—A Conceptual Model, Henry S. Santeford and George R. Alger, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p242-247.

Hydraulic Resistance of River Ice, Hung Tao Shen, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p224-229. Simulation of Lake Ice Dynamics, Ralph R. Rumer, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p236-241.

Unsteady River Flow beneath an Ice Cover, M. G. Ferrick and G. E. Lemieux, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p254-260.

Suspended Sediment Profile for Ice-Covered Flows. Bommanna G. Krishnappan, HY March 83, p385-

First-Generation Model of Ice Deterioration, George D. Ashton, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p273-278.

Continuous Velocity Measurements in the St. Clair River, Jan A. Derecki, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p588. Design of Manmade Offshore Islands for Ice Forces,

Jerry L. Machemehl, (Design for Ice Forces, Dan R.

Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p38-53.

Design of Navigational Structures for Ice Forces, Mauri Mattanen, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983),

p172-185.

Great Lakes Ice Dynamics Simulation, Akio Wake and

Ralph R. Rumer, Jr., WW Feb. 83, p86-102. Methods of Ice Control, G. Frankenstein and B. Hanamoto, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p204-215.

Ice flows

Resistance of Beauharnois Canal in Winter, Gee Tsang, HY Feb. 82, p167-186.

Characterization of Offshore and Coastal Ice Conditions, Kennon D. Vaudrey, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New

Dan R. Catowell and Randy Crissman, eus., New York: ASCE, 1983), p3-16.
Frost Inducing Slides on Membrane-Lined Canal Slopes, Chester W. Jones, CE Nov. 83, p68-69.
Ice Jams, S. Beltaos, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p230-235.
A Laboratory Study of River and Ground Icings, R. Ettema, G. Schohl and B. Klindera, (Frontiers in Hung Tao Shen, ed. 1983). Hydraulic Engineering, Hung Tao Shen, ed., 1983), p279-284.

Analysis of the Variation of River Stage in the Freezing Season for Some Cases on the Yellow River, Chen Zanting, Sun Zhaochu and Wang Wencai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p248-253

Asymmetric Plane Flow with Application to Ice Jams, Jean-Claude Tatinclaux and Mustafa Gögus, HY

Nov. 83, p1540-1554.
Computer Modelling of Ice Jams, E. Allen Churchill, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p267-272.

Effects of an Ice Cover—A Conceptual Model, Henry

S. Santeford and George R. Alger, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p242-247.

Floodplain Delineation in Ice Jam Prone Regions, Richard M. Vogel and Jery R. Stedinger, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p261-266.

Ice Jams, S. Beltaos, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p230-235.River Ice Jams: Theory, Case Studies, and Applications, Spyridon Beltaos, HY Oct. 83, p1338-1359.

Design for Ice Forces, Stan R. Caldwell, ed. and Randy

D. Crissman, 1983, 218pp. Design of Bridges for Ice Forces, Charles R. Neill, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p156-171.

Design of Navigational Structures for Ice Forces, Mauri Maattanen, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983),

Design of Port and Coastal Structures for Ice Forces, Dennis Nottingham and Brent T. Drage, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman,

eds., New York: ASCE, 1983), p54-68.

Design of Prefabricated Offshore Structures for Ice Forces, Brian J. Watt, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p17-37.

Design of Submerged and Floating Structures, Peter G. Noble, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p186-203

Hydraulic Model Testing of an Arctic Seawater Intake Structure, Jack C. Cox and Jerry L. Machemehl, (Coastal Structures '83, J. R. Weggel, ed., 1983), p532-550.

Measurement of Ice Forces on Structures, D. S. Sodhi and F. D. Haynes, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p139-155.

Oil Rigs Designed to Combat Arctic Ice, Ben C. Gerwick, Jr., CE Dec. 83, p38-41.

River and Lake Ice Processes Relevant to Ice Loads,

Robert Gerard, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p121-138.

Ice mechanics

Ice Strength in Brittle and Ductile Failure Modes, Dale G. Karr and Sankar C. Das, ST Dec. 83, p2802-2811. Simulation of Lake Ice Dynamics, Ralph R. Rumer, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p236-241.

Ice pressure
Artificial Islands, Frank P. Robertson, CE Aug. 83,

Design for Ice Forces, Stan R. Caldwell, ed. and Randy D. Crissman, 1983, 218pp. Ice Forceasting Model for Lake Erie, Shih-Huang Chieh, Akio Wake and Ralph R. Rumer, Jr., WW Nov. 83, p392-415.

Augmentation of Urban Water by Antarctic Icebergs, J. D. Lawson and D. S. Russell-Head, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2610-2618.

lcebreakers

Design for Ice Forces, Stan R. Caldwell, ed. and Randy

D. Crissman, 1983, 218pp.

Methods of Ice Control, G. Frankenstein and B Hanamoto, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p204-215.

Impact forces

Impact Factors for Fatigue Design, Charles G. Shilling, ST Sept. 82, p2034-2044. Residual Strength of Impacted SMC Composites, Shive K. Chaturvedi and Robert L. Sierakowski, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p495-498.

Shock Pressure of Breaking Waves on Vertical Walls, M. Salih Kirkgoz, WW Feb. 82, p81-95.

Bridge Impact due to Wheel and Track Irregularities, Apiwan Wiriyachai, Kuang-Han Chu and Vijay K.

Garg, EM Aug. 82, p648-666.

Impact Response of Buckled Composite Laminates, J. K. Chen and C. T. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p515-518.

Impact Stresses During Dynamic Compaction, Paul W. Mayne and Jones S. Jones, Jr., GT Oct. 83.

p1342-1346

Modeling of Steel Tube Vehicular Crash Cushion, John F. Carney, III, Chris D. Austin and Steven R. Reid, TE May 83, p331-346.

Properties of Concrete Subjected to Impact, Wimal Suaris and Surendra P. Shah, ST July 83, p1727-1741.

Concrete Structures: Penetration Depth Estimation, Achintva Haldar, Mehdi Hatami and Frank J. Miller, ST Jan. 83, p245-250.

Minisized Automobiles and Roadside Appurtenances, John F. Carney, III, TE Nov. 83, p815-823.

Mechanical Mixing and Surface Reaeration, Robert B. Banks, Liqa Raschid-Sally and Chongrak Polprasert, EE Feb. 83, p232-241.

Imperfections

Imperfection Sensitivity of Circular Arches, Iradj Tadibakhsh, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1109-1112

On the Snap-Through Phenomenon of N-Imperfect Bars, Evangelos Galousis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1122-1125.

Impingement
Impingement of Water Jets on Nonuniform Stream

Bed, Walter C. Mih and Jobaid Kabir, HY Apr. 83, p536-548

Numerical Study of Two-Dimensional Impinging Jet Flows with Large Distance/Width Ratio, Jack C. Hwang, Fu-Kang Tsou and Siamak Negahban, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p1190-1193.

The Role of Eddy Viscosity in a Plane Jet Impingement, Chwen-Yuan Guo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1270-1273. Vertical Round Bouyant Jet in Shallow Water, Joseph

H. W. Lee and Gerhard H. Jirka, HY Dec. 81, p1651-1675.

Imports
Asphalt Industry Opposes FHWA "Buy America" Regs, CE Oct. 83, p10.

The Geology and Soil Properties of a Project in S.E. Alaska, Jack A. Caldwell and Allan S. E. Moss, (Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p57-81.

Reservoir-Induced Macroearthquakes: A Reassessment, Ronald B. Meade, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p23-40.

npoundments

Goodwin Dam Hydroelectric Project, Harold Turner,

Jr. and John R. Lavigne, Jr., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 595. Model of Mississippi River Pool: Dissolved Oxygen, Alexander C. Demetracopoulos and Heinz G. Stefan, EE Oct. 83, p1020-1034.

Model of Mississippi River Pool: Mass Transport, Alexander C. Demetracopoulos and Heinz G. Stefan, EE Oct. 83, p1006-1019.

Impulsive loads

Properties of Concrete Subjected to Impact, Wimal Suaris and Surendra P. Shah, ST July 83, p1727-1741.

R/C Containment Safety under Hydrogen Detonation, Michael N. Fardis, Alex Nacar and Michael A. Delichatsios, ST Nov. 83, p2511-2527.

The "Break-Off Method" for Testing Concrete in Place, Einar Dahl-Jorgensen, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engi-Practice, W. F. Chen, et al, eds., 1983), p569-572.

Cold-Formed Steel Panels with Riveted Connections, Muzaffer Yener and Richard White, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983). p565-568.

Displacements and Strains Around Probes in Sand, John L. Davidson and Alireza Boghrat, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p181-202.

In Situ Tests and their Application in Offshore Design, Jean-Louis Briaud and Barry Meyer, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p244-266. The LPC Pressiopenetrometer, François J. Baquelin

and Jean-Francois Jezequel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p203-219.

Modelling of In Situ Tests in Jointed Rocks, Md. O. Faruque and Md. M. Zaman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p88-101.

Obtaining Moduli from Cyclic Pressuremeter Tests,

Jean-Louis Briaud, Robert L. Lytton and Jung-Tsann Hung, GT May 83, p657-665. Proceedings of the Conference on Geotechnical Prac-

tice in Offshore Engineering, Stephen G. Wright, ed.,

1983, 630pp.

SPT - CPT Correlations. P. K. Robertson, R. G. Campanella and A. Wightman, GT Nov. 83, p1449-1459

Incentives

Financial Incentives to Raise Productivity, Alexander Laufer and John D. Borcherding, CO Dec. 81,

p/40-/50.
Management Compensation in the Construction Industry, Ralph Beck, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p23-27.

ncineration

European Experience in Coincineration, John G. Stroka, Richard E. Foerster, Carl M. Koch and John E. Spitko, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p366-374

Incinerator Ship Systems As Viewed from the Coastal Zone, Henry S. Marcus, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2487-2501.

Magoon, et al., eds., 1963), 52467-2201.
Operation and Control of Municipal Co-Incineration
Systems, Jeannette A. Semon, (National Conference
on Environmental Engineering, Allen Medine, et al,
eds., 1983), p375-380.
The Role of the Port within the Logistical System

Supporting Incinerator Ships, Henry S. Marcus, (Proceedings of Ports 83, Kong Wong, ed., 1983),

pl-14.
Wastewater Treatment: Sensitivity Analysis, Makram
T. Suidan, F. Michael Saunders, C. Stuckey Godfrey and Harry T. Stewart, EE Feb. 83, p120-138.

Wastewater and Air Treatment Equipment Combine to Retrofit Incinerator, CE Dec. 83, p16.

Incipient motion

Incipient Motion of Cohesive Soils, M. Krishnamurthy, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p96-101.

Incipient Motion of Particles under Oscillatory Flow, L. Lenhoff, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1555-1568.

Load Reductions on Buried Rigid Pipe, Lawrence C. Rude, TE Jan. 83, p107-123.

Incremental launching
Incremental Launching of Structures, Wilhelm Zellner and Holger Svensson, ST Feb. 83, p520-537.

Implementation Aspects of Water Resources Planning in India, Udai P. Singh, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p203-210.

Indian reservations
Ground Water and Federal Reserved Rights, John W. Bird, WR Apr. 83, p174-178.

Industrial plants
Dynamic Tests of Three Commercial Buildings, Charles A. Kircher, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,

chaines and Their Impact on Civil Engineering, Fractice, W. F. Chen, et al., eds., 1983), p368-371.

Energy and Environmental Audits: Design for Cost Savings and Minimum Emissions, John A. Chicca, Daniel H. Johnnie, Jr. and John F. Nagy, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p5-7. Environmental Rules Have Little Effect on Location of

Industry, CE Sept. 83, p14. Siting of Coastal Dependent Industrial Facilities in California, Naida Smith West, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2706-2724.

Industrial wastes
California and EPA Hazardous Waste Regulations, Ronald M. Block and Robert M. Kennedy, El Jan.

83, p10-17.

The Liner Design Process for Landfills and Surface Impoundments, Glenn N. Coffman, (National Conference on Environmental Engineering, Allen Medine,

et al, eds., 1983), p350-357.

A New Approach for Siting Waste Facilities, D. L. Caputo, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p15-18.

Settling of Coal Ashes, Byung R. Kim, T. -Y. J. Chu and R. J. Ruane, EE Feb. 83, p157-173.

Industrial water

A Case History of Developing Water Quality Standards and Use Classification by a Shale Oil Industry, Paul N. Seeley and Allan L. Udin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p783-788.

Environmental Rules Have Little Effect on Location of Industry, CE Sept. 83, p14.

Inelastic action

Computation of Inelastic Response Spectra, James M. Nau, EM Feb. 83, p279-288.

Coupled Moment-Axial Force Behavior in Bolted Joints, M. W. Wales and E. C. Rossow, ST May 83, p1250-1266.

Cyclic Behavior and Design of Link Beams, Keith D. Hjelmstad and Egor P. Popov, ST Oct. 83, p2387-

Distortional Hardening Rules for Metal Plasticity, Miguel Ortiz and Egor P. Popov, EM Aug. 83, p1042-1057.

p1042-1057.
Dynamic Response of Coupled Wall Systems, J. D. Aristizabal-Ochoa, ST Aug. 82, p1846-1857.
Hysteretic Endochronic Theory for Sand, Zdenek P. Bazant, Raymond J. Krizek and Chin-Long Shieh, EM Aug. 83, p1073-1095.
Inelastic Behavior of Continuous Prestressed Concrete Beams, M. Z. Cohn and Y. Frostig, ST Oct. 83,

p2292-2309.

Inelastic Dynamic Response of Braced Tall Buildings to Earthquakes, P. Jayachandran and G. Asfour, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p146-149.

Inelastic Lateral Torsional Buckling of Beams, Bruce A.

Hollinger and C. P. Mangelsdorf, ST Aug. 81, p1551-1567.

Inelastic Tangential Stiffness for 2-D Frames, Tai-Yan Kam, Edwin C. Rossow and Ross B. Corotis, ST Nov. 83, p2685-2697. Nonlinear Finite Element Analysis of Steel Frames,

Mohamed H. El-Zanaty and David W. Murray, ST

Feb. 83, p353-368. Non-Zero Mean Random Response of Yielding Systems, Thomas T. Baber, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p267-270.

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp.

Effects of Currents on Wave Drag and Inertia Loads, Terence S. Hedges, (Coastal Structures '83, J. R. Weggel, ed., 1983), p461-473.

Correspondence between the SCS CN and Infiltration Parameters, H. J. Morel-Seytoux and J. P. Verdin, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p308-319.

The Curve Number Runoff Model as an Infiltration Model for Hydrograph Simulation, Michael E. Meadows and Allen L. Chestnut, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p298-307.

Distribution of Infiltration on a Small Watershed, Oliver J. Grah, Richard H. Hawkins and Terrance W. Cundy, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p44-54. Field Studies of Rapid Infiltration Treatment of

Primary Effluent, E. R. Bennett and L. E. Leach, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p41-49.
Generalized SCS Runoff and Infiltration Equations,

Cheng-lung Chen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p216-225.

Green-Ampt Infiltration Model Parameters for Hydro-

logic Classification of Soils, Donald L. Brakensiek and Walter J. Rawls, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p226-233.

Green-Ampt Infiltration Parameters from Soils Data, Walter J. Rawls, Donald L. Brakensiek and Norman

Miller, HY Jan. 83, p62-70.

Heat Loss from Rapid Infiltration Basin in Winter, Heinz G. Stefan, EE Feb. 82, p141-158.

Observations on Moisture Movement in a Natural Expansive Soil, Raymond N. Yong, Madan L. Sadana and Blair Gohl, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p200-220.

Pragmatic Evaluation of the SCS Hydrologic Methods, Richard H. McCuen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p200-207

Vertical Migration of Organic Pollutants during Infiltration, Randall J. Charbeneau and Howard M. Liljestrand, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p48-53.

Infiltration rate

Distribution of Infiltration on a Small Watershed, Oliver J. Grah, Richard H. Hawkins and Terrance W. Cundy, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p44-54.

Two-Dimensional Exponential Infiltration Equations, Yu-Si Fok, Sang-Ok Chung and Clark C. K. Liu, IR Dec. 82, p231-241.

Vadose Zone Permeability Tests: Steady State Results, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p640-659.

Vadose Zone Permeability Tests: Unsteady Flow, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p660-677.

Inflatable structures

Flexible Dams Inflated by Water, Nicholas Manville Hitch and Rangaswami Narayanan, HY July 83, p1044-1048.

Ponding Instability of Inflated Imperfect Membranes, Goodarz Ahmadi and Peter G. Glockner, ST Feb. 83, p297-313.

Inflation, eco

Inflation and Highway Economic Analysis, Philip D. Cady, TE Sept. 83, p631-639.

Investigations on Atchafalaya Bay Sediments, Allen M. Teeter, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p85-90.

Measurement Device Effect on Channel Water Loss, Thomas J. Trout, IR March 83, p60-71.

Recovery in Large Diameter Wells, P. Basak, HY Oct. 82, p1194-1207.

Information centers

Data on Failure Trends to Be Offered, CE Oct. 83, p18.

Information management
An Information Management System for the Mississippi-Alabama Coastal Zone: Design and Implementation, Eldon C. Blancher, II, (Coastal Zone Orville T. Magoon, et al, eds., 1983), p575-583.

Microcomputers in Field Project Management, Robert E. Dapogny and Charles W. Brodhead, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p253-266.

Project Systems via Satellite Communications, Daniel J. McDermott, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p267-277.

Data on Failure Trends to Be Offered, CE Oct. 83, p18. Information to Support Highway Safety Decisions, Patricia F. Waller, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p162-169.

Information system design Organization of a Structural Design Database, William J. Rasdorf and Steven J. Fenves, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p559-571.

Information systems

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End-User Systems Boost MIS Productivity, W. Dennis Moran and R. Timothy Heatwole, (Improving Productivity, J. R. King Jr., ed., 1983), p67-78.

An Information Management System for the Missis-

sippi-Alabama Coastal Zone: Design and Imple mentation, Eldon C. Blancher, II, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p575-583. Interactive Nonstructural Flood-Control Planning, David T. Ford, WR Oct. 81, p351-363.

Macrofirms: Construction Firms for the Computer Age,

Gianfranco Dioguardi, CO March 83, p13-24.
Microcomputers in Field Project Management, Robert
E. Dapogny and Charles W. Brodhead, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p253-266.

National Water-Use Information Program, William B. Mann, IV, John E. Moore and Edith B. Chase, WR Apr. 83, p186-194.

Water Resources Information Will Be Compiled By Interior Dept., CE June 83, p18.

Ad and PR Campaign Gets Started, CE Apr. 83, p72. Analyzing Infrastructure Condition-A Practical Approach, D. Kelly O'Day, CE April 83, p39-42. Can the Private Sector Solve Water Investment Prob-

lems? Neil S. Grigg, CE April 83, p6.
Can the Private Sector Solve Water Investment Problems? Neil S. Grigg, CE April 83, p6.

The Civil Engineer and the Decay of America's Infrastructure, Anthony J. Bellitto, Jr., CE Dec. 83,

Congress Forms Group to Study Infrastructure, CE April 83, p10.

Congressional Budget Office Estimates \$53.4 Billion a Year for Public Works, CE June 83, p21.

Excerpts from: Rebuilding America--Financing Public Works in the 1980s, Roger J. Vaughn, CE Sept. 83,

Georgia's Low-Cost Approach to Rehabilitating Concrete Pavements, CE Aug. 83, p50-54.
Houston Moves to Unravel Traffic, Merja Lehtinen, CE

Nov. 82, p60-63 Infrastructure Crisis: What the Media Are Saying, CE Jan. 83, p38-40.

Infrastructure Rehab Calls for Civils, CE Feb. 83, p74. Next Issue-The Nation's Water Infrastructure, Frank Musica, CE June 83, p104.

On Infrastructure (ltr.), P. E. Cunningham, CE Feb. 83,

Outlook Good for Rehab of Nations Bridges, CE Sept. 83, p20. Proposition 13: Imapet on California Public Works,

Gary Goldstein, CE Sept. 83, p45-49. Public Works and Unemployment: A Panel Discussion,

CE Aug. 83, p46-49.

Public Works (Itr.), David King, CE July 83, p30. Rehab Assembly to Convene, CE Oct. 83, p95. Salvaging Cleveland, Allen Morrison, CE Nov. 82, p39-42.

The Senate Considers Rebuilding America, Frank D. Musica, CE Jan. 83, p124. Stearns Becomes President: Public Safety and Quality

Water Among Concerns, CE Oct. 83, p76-77. Urban Highway Financing Mechanisms and Policies Gary E. Maring, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p54-63.

Value Engineering (ltr.), Howard Ellegant, CE Sept. 83,

Water Experts Call for Innovative Financing, CE Feb. 83, p8.
What Your ASCE Dues Checkoff Buys, CE Oct. 83,

p94-95. Injection wells

Pump Testing Boulder Zone Aquifer, South Florida, Udai P. Singh, Gary E. Eichler, C. Ross Sproul and J. I. Garcia-Bengochea, HY Aug. 83, p1152-1160.

Inland waterway

Monitoring the Environment-McClellan-Kerr Waterway, Quinn G. Spann, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p20-30.

Island waterways
Design for Ice Forces, Stan R. Caldwell, ed. and Randy
D. Crissman, 1983, 218pp.
Design of Inland Navigation Fairways, Henk G.
Blaauw and Henk J. Verhey, WW Feb. 83, p18-30.
Float-In Powerhouses, George A. Makela, EY June 83,

Gianelli Pushes Fee for Inland Waterway Use, CE June

Modernization and Upgrading of the Dock and Associated Facilities at Iquitos, Peru, R. G. Tanner, G. P. Tsinker and R. Delgado Sayan, (Proceedings of Ports 83, Kong Wong, ed., 1983), p621-634. National Study Cites Congested and Costly Waterways, CE June 83, p8.

Prototype Experience and Model Studies of Navigation Effects on Inland Waterways, Noel R. Oswalt and Claude N. Strauser, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p201-206.

Inlets, waterways

Breach/Inlet Interaction at Moriches Inlet, E. J. Schmeltz, R. M. Sorensen, M. J. McCarthy and G. Nersesian, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1062-1077. Circulation Induced by Tidal Jets, Prakash Joshi and E. Bruce Taylor, WW Nov. 83, p445-464.

The Design and Performance of a Weir at Boca Raton Lebet Elegist. Pickaged M. School 11.

Inlet, Florida, Richard H. Spadoni, Norman H. Beumel and Thomas J. Campbell, (Coastal Structures Beumei and I nomas J. Campbell, (Coastal Structures '83, J. R Weggel, ed., 1983), 9894-901.

The Design of Weir Sand By-Passing Systems, J. Richard Weggel, (Coastal Structures '83, J. R. Weggel, ed., 1983), 9860-875.

Linearized Solution to Inlet Equation with Inertia.

Todd L. Walton, Jr. and Francis F. Escoffier, WW

Aug. 81, p191-195.
Model-Prototype Comparison of Free Surface Vortices,
George E. Hecker, HY Oct. 81, p1243-1259.
Movable-Bed Tidal Inlet Model, Subhash C. Jain, WW

Aug. 82, p326-342.

Natural Bar-Bypassing of Sand at a Tidal Inlet, Walter J. Sexton and Miles O. Hayes, (*Proceedings of Coastal Engineering 82, Vol. II*, Billy L. Edge, ed., 1983), p1479-1495.

Pass Cavallo, Texas: Case Study of Tidal-Prism Capture, George H. Ward, Jr., WW Nov. 82,

p513-525.

Physical Model Study of Weir Jetty Design, William C. Seabergh, (Coastal Structures '83, J. R. Weggel, ed., 1983), p876-893.

Sediment Bypassing at Mixed Energy Tidal Inlets, Duncan M. FitzGerald, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1094-1118.

Sediment Transport Investigations in a New Zealand Tidal Inlet, K. P. Black and T. R. Healy, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2436-2457.

p2436-2457.
Shoaling with Bypassing for Channels at Tidal Inlets,
Cyril Galvin, (Proceedings of Coastal Engineering 82,
Vol. II, Billy L. Edge, ed., 1983), p1496-1513.
Shore Protection at Venice: A Case Study, A. Muraca,
(Proceedings of Coastal Engineering 82, Vol. II, Billy
L. Edge, ed., 1983), p1078-1093.
Willow Creek Inlet, Wallace A. English and Larry D.
Simpson, (Frontiers in Hydraulic Engineering, Hung
Tao Shen ed. 1983), p159-164.

Tao Shen, ed., 1983), p159-164.

Australian Coal Terminal Operates Happily Beside Residential Area, Gary Goldstein, CE Dec. 83, p34-37. Can We Become More Creative? Sam Bonasso, CE Jan.

Innovative Designs for Navy Piers, Philip Chow and Harvey Haynes, (Proceedings of Ports 83, Kong Wong, ed., 1983), p442-455.

Managing Technological Innovation, CE Feb. 83, p26. The Quiet Revolution in Skyscraper Design, Eugene E. Dallair, CE June 83, p54-59.
U.S. Bridges: The Bias Towards Mediocrity, Rowland Richards, Jr., CE April 83, p62-66.

Building Construction: More than Inspection Is Needed to Prevent Problems, Albert L. Gouwens, CE June

Safety Related Earth Structures, American Society of

Civil Engineers, 1983, 23pp.
OSHA, Probable Cause, CE June 83, p20.
Preliminary Inspection of Pier Structures, Bryan D.
Wesselink and Richard B. Harley, (Proceedings of Ports 83, Kong Wong, ed., 1983), p51-61. Probabilistic Study on Failure of Large Dams, Luis

Valadares Tavares and Joaquim Laginha Serafim,

GT Nov. 83, p1483-1486.

Structural Evaluation of Marine Structures, Jerry J. Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677.

Inspection effectiveness

Inspecting Buildings During Construction: Are We Doing a Good Enough Job? Eugene E. Dallaire, CE Jan. 83, p50-55.

Inspector training

Jump Graduates Construction Inspectors, CE Jan. 83, p27.

Inspectors

Kansas City Suspends Group of Building Inspectors, CE Apr. 83, p8.

Instream flow

Comparing Instream Flow Programs: A Report on Current Status, Berton L. Lamb and Hank Meshorer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p435-445.

Instruction

Student Performance in Televised Lectures, Anthony Tarquin, Lionel Craver and Darrell Schroder, El July 83, p208-213.

Instrumentation

Embankment Failure on Clay near Rio de Janeiro, J. A. Ramalho-Ortigao, Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479.

Comprehensive Insurance Occurance, CE June 83, p20. Foundation Settlement, Insurance Applicable, CE June

Insurance As a Risk Management Tool, H. Joseph Coughlin, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2650-2654.

Professional Liability Coverage for the CM, Homer M. Sandridge, (Liability in Construction Management, David M. Lee, ed., 1983), p38-42.

Approach-Flow Effects on Downpull of Gates, Nguyen D. Thang and Edward Naudascher, HY Nov. 83, p1521-1539.

Hydraulic Model Testing of an Arctic Seawater Intake Structure, Jack C. Cox and Jerry L. Machemehl, (Coastal Structures '83, J. R. Weggel, ed., 1983), p532-550.

Boundary Methods-An Historical Perspective and Modern Developments, J. A. Liggett and P. L. -F. Liu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p362. Computer Graphic Boundary Element Analysis,

Renato Perucchio and Anthony R. Ingraffea, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

Energy Release Rates Using a Peach-Koehler Concept, G. Omoike and C. R. Vilmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p483-486.

Inelastic Tangential Stiffness for 2-D Frames, Tai-Yan Kam, Edwin C. Rossow and Ross B. Corotis, ST

Nov. 83, p2685-2697.

Interaction diagrams
Plastic Shear Hinges in Steel Frames, Daniel N. Manheim and Egor P. Popov, ST Oct. 83, p2404-

Interaction models

Prediction and Control of Pedestrian-Induced Vibration in Footbridges, John E. Wheeler, ST Sept. 82, p2045-2065.

Interactions

Computer Graphic Boundary Element Analysis, Renato Perucchio and Anthony R. Ingraffea, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p422-435.

Interfaces

Cyclic Shear and Dowel Action Models in R/C, Rafael Jimenez, Richard N. White and Peter Gergely, ST May 82, p1106-1123.

Finite Element Method for Interface Problems, Santosh K. Arya and Gilbert A. Hegemier, ST Feb. 82, p327-342.

Internal pressure Internal Pressure and Building Safety, Henry Liu and Patrick J. Saathoff, ST Oct. 82, p2223-2234. Internal Pressure of Multi-Room Buildings, Patrick J.

Saathoff and Henry M. Liu, EM June 83, p908-919. R/C Containment Safety under Hydrogen Detonation, Michael N. Fardis, Alex Nacar and Michael A. Delichatsios, ST Nov. 83, p2511-2527.

Internal wave

A Universal Strouhal Law, Enso Levi, EM June 83, p718-727.

International commissions

European Cooperation in Coastal Policy, Marios Camhis and Harry Coccossis, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1790-1802.

International development

Are U.S. Firms Handicapped in Winning Foreign Jobs?
Gary Goldstein, CE Oct. 83, p41-45.
Froject Evaluation in International Development,
Branden B. Johnson, El Apr. 82, p122-132.

International factors

The Peril and Opportunity in the Water States, William C. Wright, CE Nov. 83, p72-73.

Intersections

Additional Through Lanes at Signalized Intersections, David L. Guell, TE July 83, p499-505. Estimation of Left-Turn Traffic Parameters, Feng-Bor

Lin and Theodore T. Nadratowski, TE May 83, p347-362.

Forecasting Intersection Traffic Volumes, Martin G. Buehler, TE July 83, p519-533.

Variance of Vehicle Change Intervals, Martin G. Buehler, TE Nov. 83, p871-875.

Interstate highways
Florida DOT Studies Legalities of Road Warranties,

CE Oct. 83, p10.
Georgia's Low-Cost Approach to Rehabilitating Concrete Pavements, CE Aug. 83, p50-54.
Glenwood Canyon 1-70: Environmental Concern, Ralph J. Trapani and Eric A. Beal, TE May 83, p403-413.

Washington D.C. Suburban 166—Unique Compromise in Expressway Design, John N. Hummel, CE Dec. 82,

Investment return analysis

Cost Model of Industrial Fluidized Bed Boilers, John

D. Keenan and Mark Maguire, EY June 83, p113-126

GSA's New Project Budgeting Procedure, Donald E. Parker, (Current Practice in Cost Estimating and Cost Control. Victor F. Spruill, et al. eds., 1983), p45-60.

Iran's Mode of Modernization: Greening the Desert, Deserting the Greenery, H. Pazwash, CE Apr. 83,

Iron

Slurry Pipeline Operations in Cold Regions-Some Aspects, Anders Sellgren, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p682-693.

Iron compound

Identity and Character of Iron Precipitates, R. Bruce Robinson, Turgut Demirel and E. Robert Baumann, EE Dec. 81, p1211-1227.

Irregular boundaries

Area Computation Using Salient Boundary Points, Fouad A. Ahmed, SU March 83, p54-63.

Irrigation

Flexible Dams Inflated by Water, Nicholas Manville Hitch and Rangaswami Narayanan, HY July 83,

Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther,

ressures, John Borlein, ed., 1983, 558pp.
Solution of Recession and Runoff Integrals, Mohammad Akram Gill, IR Sept. 83, p333-337.
Vadose Zone Permeability Tests: Steady State Results,
Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p640-659.

Vadose Zone Permeability Tests: Unsteady Flow, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p660-677.

Water Yield Estimation in Western United States, Mark E. Hawley and Richard H. McCuen, IR March 82, p25-34.

Weather Station Siting and Consumptive Use Esti-mates, Richard G. Allen, Charles E. Brockway and James L. Wright, WR Apr. 83, p134-136.

Irrigation districts

Fluctuations in Irrigation Water Deliveries, Albert J. Clemmens, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p546-553.

Irrigation efficiency

Automated Telemetric Irrigation Controller, H. D. Fisher, A. S. Humpherys and D. A. Young, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p250-258.

Automated Weather Data Network for Agriculture, Kenneth G. Hubbard, Norman J. Rosenberg and David C. Nielsen, WR July 83, p213-222. Basin-Wide Impacts of Irrigation Efficiency, L. S.

Willardson and R. J. Wagenet, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p522-529. Chemical Reactions within the Root Zone, J. D. Oster and K. K. Tanji, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p399-408.

Crop Yield Models Adapted to Irrigation Scheduling, R. W. Hill and A. A. Keller, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p71-78.

A Farmer Operated Irrigation Scheduling Procedure, Ron D. Bliesner and Robert W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p259-266.

Groundwater Studies in New Mexico and Arizona, George V. Sabol, Herman Bouwer and Peter J. Wierenga, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p192-199.
Increasing Irrigation Efficiencies and Their Effect on Nitrates in the Environment, William F. Ritter and Katherine A. Manger, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p417-426. Land Consolidation in Irrigation Projects, Herve L.

Plusquellec, IR March 83, p99-110.

Models of Alfalfa Yield and Evapotranspiration,
Johannes C. Guitjens, IR Sept. 82, p212-222.

Operation and Maintenance Costs and Water Use by Idaho Irrigation Projects, Richard G. Allen and Charles E. Brockway, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p160-14. Sall Problems from Increased Irrigation Efficiency, J.

D. Rhoades, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), 427-434. Total Water Management for Alfalfa, J. C. Guitjens, P. -S. Tsui and J. M. Connor, (Advances in Irrigation and

-S. Isu and J. M. Collinot, Advances in Projution and Drainage, John Borrelli, ed., 1983), p63-70.

Traveling Velocity of Movable Frontal Lateral, Gideon Oron, IR June 83, p270-273.

Upper Limit Lognormal Distribution for Drop Size Data, James C. Bezdek and Kenneth H. Solomon, IR

March 83, p72-88. Water Rights Transfers and Irrigation Efficiency, James L. Wescoat, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p385-390.

Irrigation engineering
Development of Solutions for Level-Basin Design, Albert J. Clemmens, Theodor Strelkoff and Allen R. Dedrick, IR Sept. 81, p265-279.

Principles of Project Formulation for Irrigation and Drainage Projects, George R. Baumli, ed., 1982,

Irrigation machines
Traveling Velocity of Movable Frontal Lateral, Gideon Oron, IR June 83, p270-273.

Irrigation pipes

Case Histories: Construction on Canyon Wall Terrain, Frank W. Pita and B. Louise Woodward, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Irrigation practices
Traveling Velocity of Movable Frontal Lateral, Gideon Oron, IR June 83, p270-273.

Irrigation programs
Land Consolidation in Irrigation Projects, Herve L. Plusquellec, IR March 83, p99-110.

Irrigation systems

Application of Penman Equation Wind Function, Richard H. Cuenca and Martin T. Nicholson, IR March 82, p13-23.

Derivation of Mean Depth in the Lewis-Milne Equation

for Border Irrigation Advance, Vijay P. Singh and Shyam N. Prasad, (Advances in Irrigation and Drain-age, John Borrelli, ed., 1983), p234-241.

Design Considerations for Reducing Operating Costs, Roger W. Beieler, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p147-153.

Fluctuations in Irrigation Water Deliveries, Albert J.

Clemmens, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p546-553.

Interrelationships of Irrigation Uniformity Terms, A.

W. Warrick, IR Sept. 83, p317-332. Land Consolidation in Irrigation Projects, Herve L.

Plusquellec, IR March 83, p99-110.

Limits for Practical Level-Basin Design, Albert J. Clemmens and Allen R. Dedrick, IR June 82,

Operation and Maintenance Costs and Water Use by Idaho Irrigation Projects, Richard G. Allen and Charles E. Brockway, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p160-174.

Optimal Design of Small Reservoir Systems, Prem N.

Sharma and Otto J. Helweg, IR Dec. 82, p.250-264. Optimization of Irrigation Systems Rehabilitation Planning, Kyung H. Yoo and J. R. Busch, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p391-398

Traveling Velocity of Movable Frontal Lateral, Gideon Oron, IR June 83, p270-273.

Chemical Reactions within the Root Zone, J. D. Oster and K. K. Tanji, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p399-408. Drainage by an Intercepting Pump Station, Mostafa M.

Soliman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p337-343.

Drought Analysis and Soil Moisture Prediction, Graeme M. Smart, IR June 83, p251-261. Effect of Irrigated Agriculture on Groundwater, Her-

man Bouwer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p175-182.

Estimating Potential Evapotranspiration, George H. Hargreaves and Zohrab A. Samani, IR Sept. 82, p225-230.

Fluctuations in Irrigation Water Deliveries, Albert J.

Fluctuations in Irrigation Water Deliveries, Albert J. Clemmens, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p546-553.
Groundwater Quality Studies in California, Kenneth D. Schmidt and Irving Sherman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p183-191.
Irrigation Water Delivery for Equity between Users, A. A. Bishop and A. K. Long, IR Dec. 83, p349-356.
Leaching Requirements for Managing Salinity, Glenn J. Hoffman, (Advances in Irrigation and Drainage, John Borrelli ed. 1983), a409-416. Borrelli, ed., 1983), p409-416.

Modeling Water Demands of Irrigation Projects, David R. Maidment and Paul D. Hutchinson, IR Dec. 83,

Models of Alfalfa Yield and Evapotranspiration, Johannes C. Guitjens, IR Sept. 82, p212-222. Water Allocation Conflicts on the Canadian Prairies, lan C. Goulter and Bruce Webb, WR Apr. 83, p147-164.

Yakima-Tieton Irrigation District Canal Repairs, Richard V. Haapala, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p141-146.

Adsorption Isotherm Parameter Estimation, Michael W. Sweeney, William A. Melville, Boris Trgovcich and C. P. Leslie Grady, Jr., EE Oct. 82, p913-922. Isotherm for Moving Media Reactor, D. J. Bhatt, D. S. Bhargava and P. S. Panesar, EE Apr. 83, p369-382.

Frequencies of Continuous Plates by Moment-Ratio Method, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p2905-2921.

Implementation of a General Plasticity Model, M. O. Faruque and C. S. Desai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p755-758.

Shear Modulus Bounds for Transverse Isotropy, Samuel Sutcliffe, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p778-781.

Coastal Citizens Movements in Japan and California, Harvey A. Shapiro and Thomas A. Zanic, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1803-1822.

Coastal Engineering and Construction in Japan, Boyd C. Paulson, Jr., WW Feb. 81, p11-26. Seikan Tunnel, Akira Kitamura and Yuzo Takeuchi,

CO March 83, p25-38.

Underground Transit Station Construction in Japan, Boyd C. Paulson, CO March 82, p23-37.

Dilution of a Dense Vertical Jet, Wesley P. James, Ignacio Vergara and Ken Kim, EE Dec. 83, p1273-

Jet Injections for Optimum Mixing in Pipe Flow, Stephen D. Fitzgerald and Edward R. Holley, HY Oct. 81, p1179-1195.

Three-Dimensional Single and Multiple Free Jets, Bidyasagar Pani and Raghunath Dash, HY Feb. 83, p254-269.

Jets

Greulation Induced by Tidal Jets, Prakash Joshi and E. Bruce Taylor, WW Nov. 83, p445-464.
Confined Radial Buoyant Jet, David J. Fry and E. Eric Adams, HY Sept. 83, p1185-1202.
Deflections of Jets by Weak Crossflows, Peter M. Steffler and Nallamuthu Rajaratnam, EM Oct. 83,

p1303-1307.

The Development of Nonlinear Constitutive Models for

Structural Analysis of Turbine Engine Components, R. L. Thompson and T. Y. Chang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p539-544.

Diffusion of Bluff Wall Jets in Finite Depth Tailwater. Nallamuthu Rajaratnam and Joseph A. Humphries,

HY Nov. 83, p1471-1486. Erosion by Plane Wall Jets with Minimum Tailwater, Nallamuthu Rajaratnam and Roger K. Macdougall,

HY July 83, p1061-1064. Experiments on Starting Homogeneous Jets, John D. Demetriou, HY July 83, p1039-1044.

Hydraulics of Plane Free Overfall, Willi H. Hager, HY

Dec. 83, p1683-1697.

Jet Injections for Optimum Mixing in Pipe Flow, Stephen D. Fitzgerald and Edward R. Holley, HY Oct. 81, p1179-1195.

LDV Measurements in Two-Dimensional Bent-Over Jets, H. Haniu and B. R. Ramaprian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1299-1302.

Mixing Characteristics of Negatively Buoyant Swirling Plume, Masamichi Inoue and Tsung-Chow Su, HY

July 83, p1049-1056.

Noise Enhancement/Suppression from Acoustically Excited Jets, D. F. Long, H. Kim and R. E. A. Arndt, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1274-1278.

Numerical Study of Two-Dimensional Impinging Jet

Flows with Large Distance/Width Ratio, Jack C. Hwang, Fu-Kang Tsou and Siamak Negahban, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1190-1193. The Role of Eddy Viscosity in a Plane Jet Impingement,

Chwen-Yuan Guo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1270-1273. Vertical Round Bouyant Jet in Shallow Water, Joseph H. W. Lee and Gerhard H. Jirka, HY Dec. 81,

p1651-1675.

The Design and Performance of a Weir at Boca Raton Inlet, Florida, Richard H. Spadoni, Norman H. Beumel and Thomas J. Campbell, (Coastal Structures

33. J. R. Weggel, ed., 1983), p894-901.

The Design of Weir Sand By-Passing Systems, J. Richard Weggel, (Castal Structures '83, J. R. Weggel, ed., 1983), p860-875.

Physical Model Study of Weir Jetty Design, William C. Seabergh, (Coastal Structures '83, J. R. Weggel, ed., 1983), p876-893.

Reconstruction of a Grain Loading Jetty with Minimum Downtime, Kurt Helin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p704-716.

A Computer Method for the Dynamics of Jointed Rock, Michael E. Plesha, Ted Belytschko and Charles H. Dowding, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p339-342. Earthquake Response of Caverns in Jointed Rock: Effects of Frequency and Jointing, C. H. Dowding,

C. Ho and T. B. Belytschko, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p142-156.

Modelling of In Situ Tests in Jointed Rocks, Md. O. Faruque and Md. M. Zaman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p88-101.

Load Interaction in T-Joints of Steel Circular Hollow Sections, Alex Stamenkovic and Keith D. Sparrow, ST Sept. 83, p2192-2204.

Joints, bolted Bolted Wood-Joint Yield Model, Thomas E. McLain and Surot Thangjitham, ST Aug. 83, p1820-1835. Joints, bonded

Modeling of R/C Joints under Cyclic Excitations, Filip C. Filippou, Egor P. Popov and Vitelmo V. Bertero, ST Nov. 83, p2666-2684.

Jurisdiction

The California-National Ocean Survey Marine Boundary Program: 1973-1982, James N. Dowden, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2478-2486.

Regulating the Coast: Jurisdictional Boundaries of the California Coastal Commission, Joe Nicholson, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p2502-2511.

Correlation Between G_o and τ_{max} for Kaolinite Clay, G.

A. Athanasopoulos and F. E. Richart, GT May 83, p719-723.

Drained Axisymmetric Loading of Reinforced Clay, Terence S. Ingold and Keith S. Miller, GT July 83, p883-898.

Elasto-Plastic Analysis of Material with Uniaxial Symmetric Tresca Yield Condition and Cyclic Loading, Morteza A. M. Torkamani and Mohammad R. Pajand, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p738-741.

Kinematic-Wave Furrow Irrigation Model, Wynn R. Walker and Allan S. Humphreys, IR Dec. 83,

p377-392.

Semi-Analytical Approach to Kinematic Wave Equations for Design of Border Irrigation, Vijay P. Singh and Rama S. Ram, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p242-249.

Criteria for Selecting Equilibrium or Kinetic Sorption Descriptions in Groundwater Quality Models, Aaron A. Jennings and David J. Kirkner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p42-47.

Kinetics of the Rotating Biological Contactor, Khalil Z. Atasi and Jack A. Borchardt, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p255-263.

Organic Carbon Decay in Stream with Biofilm Kinetics, S. Srinanthakumar and A. Amirtharajah, EE Feb. 83, p102-119.

Attitudes toward Productivity Pay Programs, Alexander Laufer and Brian E. Moore, CO March 83, p89-101.

Cost and Schedule Integration in Construction, Chandra S. Murthy, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p119-129.

Cost Control at the Project Level: Construction Management, Dewayne E. Hahn, (Improving Productivity, J. R. King Jr., ed., 1983), p1-3.

Labor-Contractor Dialogue Transforms Worksite Atmosphere, Marie A. Casey, CE Nov. 83, p64-68.
Productivity Improvement: The Influence of Labor,
William F. Maloney, CO Sept. 83, p321-334.

Public Works and Unemployment: A Panel Discussion, CE Aug. 83, p46-49.

Union Construction is Fighting Back, Allen Morrison, CE Sept. 83, p69-72.

Labor relation

Craft Jurisdiction Impact on Construction, Boyd C. Paulson, Jr. and John W. Fondahl, CO Dec. 83, p369-386.

Labor-Contractor Dialogue Transforms Worksite At-mosphere, Marie A. Casey, CE Nov. 83, p64-68. Productivity in Civil Engineering and Construction, CE Feb. 83, p60-63.

Union Construction is Fighting Back, Allen Morrison, CE Sept. 83, p69-72.

Labor unions

Benefits and Costs of EEO Rules in Construction, Enno Koehn and Michael W. Jones, CO Dec. 83, p435-446. Craft Jurisdiction Impact on Construction, Boyd C. Paulson, Jr. and John W. Fondahl, CO Dec. 83,

Laboratories

Experimental Facilities at the UK Transport & Road Research Laboratory (TRRL), G. Margason, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p605-608.

Experimental Facilities for Earthquake Research at CTL, Donald M. Schultz, Henry G. Russell and W. G. Corley, (Recent Advances in Engineering Mechanics

G. Contey, (Keeen Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p609-612. Large Scale Seismic Testing of Building Structures, Shin Okamoto, Takashi Kaminosono, Masayoshi Nakashima and Hiroto Kato, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p634-637. p634-637.

Seismic Test Facilities for Building Structures in Japan, Katsuro Kamimura and Masayoshi Nakashima, (Recent Advances in Engineering Mechanics and Their

Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p638-641.

The Structures Laboratories at Imperial College, London, Patrick J. Dowling and Roger E. Hobbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p601-604. Texas Research Center Operates Advanced Dynamics

Test Facility, CE Dec. 83, p10.

Laboratory tests

Characterization Tests for Cohesive Sediments, Ashish . Mehta, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p79-84.

The Control of Wave Asymmetries in Random Waves, E. R. Funke and E. P. D. Mansard, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p725-744.

Discharge Assessment in Compound Channel Flow, Peter R. Wormleaton, John Allen and Panos Hadji-

panos, HY Sept. 82, p975-994.
Displacements and Strains Around Probes in Sand, John L. Davidson and Alireza Boghrat, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p181-202.
A Laboratory Study of River and Ground Icings, R. Ettema, G. Schohl and B. Klindera, (Frontiers in Page 1984), page 1981.

Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p279-284.

Nonprismatic Folded Plates: Tests, Hasmukh Vithal-bhai Trivedi, Sachchidanand Sinha and Kaveti Seetharamulu, ST Oct. 83, p2463-2473.

Turbulence Generated by Wave Breaking on Beach, T. Sakai, Y. Inada and I. Sandanbata, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p3-21.

Understanding Beach Erosion and Accretion, William N. Seelig, WW Nov. 83, p490-494.

Laced colu

Collapse Loads of Laced Columns, Sven Eilif Svensson and Jan Kragerup, ST June 82, p1367-1384.

Artificial Breachings of Bot River Estuary, G. A. W. Fromme, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2458-2473. Design Approach to Dual-Power Aerated Lagoons, Linvil G. Rich, EE June 82, p532-548.

Development of Self-Propelled Aerators, Boris Mikhail Khudenko, EE Aug. 83, p868-885.
In Situ Chemical Treatment of Lagoon Effluents, M. John Cullinane, Jr. and Richard A. Shafer, (National Conference on Environmental Engineering, Allen Medical Conference of Environmental Engineering, Allen

Medine, et al, eds., 1983), p81-88.

Laboratory Study of Reef-Lagoon System Hydraulics,
William N. Seelig, WW Nov. 83, p380-391.

Lagoon Effluent Polishing with Intermittent Sand
Filters, Jerry S. Russell, E. Joe Middlebrooks, Ronald F. Lewis and Edwin F. Barth, EE Dec. 83, p1333Space Factor in Conflict Resolution in Arcata Coastal Zone Land Use Planning, Robert A. Gearheart, George H. Allen and Frank R. Klopp, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p708-728.

Lagrange's equations

Computations of Particle Paths Using the Lagrangian Long Wave Equations, M. A. Savoie and J. van de Kreeke, (*Proceedings of Coastal Engineering 82, Vol. I*, Billy L. Edge, ed., 1983), p652-676.

Lagrangian functions
Analysis of Wall-Frames by Lagrangian Multipliers, Y.
Gilbert Antony and T. P. Ganesan, ST Feb. 83, p580-585

Integral Properties for Vocoidal Theory and Applications, G. P. Bleach, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p887-900.

Lakes
Acid Rain Model: Canopy Module, Carl W. Chen,
Robert J. M. Hudson, Steven A. Gherini, J. David
Goldstein, EE June 83, p585-603.

Diffusivity-Based Flux of Phosphorus in Onondaga Lake, Martin C. Wodka, Steven W. Effler, Charles T. Driscoll, Stephen D. Field and Steven P. Devan, EE

Dec. 83, p1403-1415.

Entrainment, Deposition, and Transport of Sediments in Lakes, Wilbert Lick and See Whan Kang, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p119.

Free and Forced Convection Effects on Evaporation, Ben L. Sill, HY Sept. 83, p1216-1231. Inlake Water Quality Enhancement of a Water Supply Impoundment in Illinois, Veerasamy Kothandara-man and Ralph L. Evans, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), 9318-326. Irregular-Grid Finite-Difference Simulation of Lake Geneva Surge, Sebastian W. Bauer and Klaus D. Schmidt, HY Oct. 83, p1285-1297.

Lake Temperature Dynamics in Hybrid Cooling Sys-tem, T. W. Sturm, J. M. Fulford and K. J. Fay, EE June 83, p668-684.

LARM Two-Dimensional Model: An Evaluation, John

A. Gordon, EE Oct. 81, p877-886. Light-Productivity Model for Onondaga Lake, NY, Stephen D. Field and Steven W. Effler, EE Aug. 83, p830-844.

Measurement of Ice Forces on Structures, D. S. Sodhi and F. D. Haynes, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p139-155. Mission Viejo Dam and Lake: Centerpiece of Big Development, CE June 83, p14.

Modeling the Annual Stratification Cycle in Lakes: The 1979-80 Lake Erie Field Program as an Example, John F. Paul, Juan C. Heinrich and Wilbert J. Lick, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p27.
Numerical Modeling Study of Lake Pontchartrain,
Glenn D. Hamilton, Cecil W. Soileau and Arthur
Stroud, WW Feb. 82, p49-64.

Nutrient Loading Estimates for Lakes, Walter Rast and G. Fred Lee, EE Apr. 83, p502-517. Onodaga Lake and Dissolved Oxygen in Seneca River,

Steven W. Effler, Peter Jaran and Charles F. Carter, EE Aug. 83, p945-951.

Performance of Some Empirical Phosphorus Models,
Dintie S. Mahamah and Surinder K. Bhagat, EE

Aug. 82, p722-729. Phytoplankton Modeling in the Embayments of Lakes, Jan-Tai Kuo and Robert V. Thomann, EE Dec. 83.

p1311-1312. Pumping Near Mt. St. Helens Lowers Lake, CE Sept.

83, p18.

Reaeration and Vertical Diffusion of Lake Oxygen, William J. Snodgrass, EE Dec. 83, p1419-1423. River and Lake Ice Processes Relevant to Ice Loads,

Robert Gerard, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p121-138.

Simulation of Lake Ice Dynamics, Ralph R. Rumer, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p236-241.

Water Quality Management of Laguna de Bay, E. W. Lee and B. L. Adan, EE Aug. 83, p886-899.

Laminar flow

Aeroelastic Simulation of Bridges, Robert H. Scanlan,

ST Dec. 83, p2829-2837.

Bed Load Transport of Fine Sand by Laminar and Turbulent Flow, Anthony J. Grass and Ragaei N. M. Ayoub, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1589-1599.

Nonuniform Laminar Free-Surface Flow, Ioannis K.

Tsanis and Hans J. Leutheusser, EM April 82,

Laminated wood Load Capacity of Row of Shear Plate Connectors, Marie-Anne Erki and Mark W. Huggins, ST Dec. 83, p2786-2801.

Parameters Influencing Behavior of Diaphragms, Rafik Y. Itani, Girish S. Hiremath and Robert J. Hoyle, Jr.,

ST Feb. 83, p369-385.

Residual Stress and Rebound Deformation in Curved Glulam Timber Members, Vijaya K. A. Gopu, Shyam N. Prasad and Sanjay V. Sohoni, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Shearing Stress in Plastic Bending of Wood Beam, Borislav D. Zakic, ST Apr. 83, p1042-1060.

Cylindrical Shells of Bimodulus Composite Materials, Charles W. Bert and V. Sudharkar Reddy, EM Oct. 82, p675-688.

Land acquisition

Beach Access—Getting More for Less, Debra Swim, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p949-965.

Education Programming in the South Slough Estuarine Sanctuary, Delane A. Munson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1840-1845.

Land Application of Sewage Sludge for Agricultural Reuse in Virginia, Thomas W. Simpson and Calmet M. Sawyer, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p878-883

Land Application of Wastewater: Water Rights Issue Craig Bell, William E. Cox and Glen Fiedler, WR

Oct. 83, p287-302.

Soil Conditioning Effects of Municipal Sludge Compost, A. C. Chang, A. L. Page and J. E. Warneke, EE June 83, p574-583.

Land fill

Borrow Dirt, Use Tax, CE Nov. 83, p22.

Land information systems

Location of Railroad Boundaries, Andrew C. Kellie, A. Essam Radwan and Dewey R. Houck, II., SU March 83, p14-23.

Land titles

Tidelands Ownership and Management: The Public Interest and Private Property Rights in New Jersey, David N. Kinsey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1902-1922.

Land treatment

Engineering Parameters for Soil Treatment of Polynuclear Aromatic Compounds, Ronald C. Sims and M. R. Overcash, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

Field Studies of Rapid Infiltration Treatment of Primary Effluent, E. R. Bennett and L. E. Leach, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p41-49. Land Treatment of Hazardous Waste, Allen Morrison,

CE June 83, p33-38.

Land Treatment of Synfuel Organic Sludges, Edward C. Davis, Margaret R. Helton and Della S. Marshall, EE

Oct. 83, p1068-1081.

Land usage

The Commons Concept and Coastal Management, N. Bartlett Theberge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p448-455.
Environmental Assessment of Campeau Shopping

Center, Fred A. Curtis, UP Sept. 83, p63-78. Evaluation of the Visual Effects of the Coastal Zone Akio Kuroyanagi and Takeo Kondo, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2222-2240.
Integrated Wastewater Management, Bhagwan R.
Kansakar and Chongrak Polprasert, EE June 83,

p619-630.

Land Suitability Analysis: Landfill Siting, William N. Lane and Robert R. McDonald, UP May 83, p50-61. Land Use, CE Oct. 83, p27.

Land Use, Spot Zoning, CE Apr. 83, p22. Map Uses, Scales and Accuracies for Engineering and Associated Purposes, Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chmn.), 1983, 168pp.

Minnesota's Hazardous Waste Siting Criteria, Alan P. Shilepsky and Robert B. Pulford, WR Apr. 83,

Multiple-Use Conflicts in a Growing Economy, Andrew A. Dzurik, UP Sept. 83, p79-93.

The Need for Guidelines for the Joint Occupancy of Utility and Pipeline Corridors, Walfred E. Hensala, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p415-419.

Relation Between Curve Number and Runoff Coef-ficient, Richard H. McCuen and Timothy R.

Bondelid, IR Dec. 81, p395-400.

Superplasticized Concrete (Itr.), Robert R. Bullard, CE Aug. 83, p22., Michael Johannes Paul, CE Aug. 83, p23.

Land usage planning

Consistency: Current Issues, Catherine A. McCord, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1289-1301.

Offshore Master Plans Synergistic Opportunities or Business as Usual, Edward J. Linky, Esq., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p1743-1752.

Oil and Gas Development in Coastal Upland Areas: Understanding the Issues, and Recommendations for Land Use Planning, Melvin R. Willis, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1753-1762.

A Planning Approach to Critical Habitat Protection, Steven L. Pollock and Alan W. Avery, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p749-768.

Public Access and Public-Private Partnerships, Adams and L. Adams, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p966-984. Space Factor in Conflict Resolution in Arcata Coastal

Space Factor in Conflict Resolution in Arcata Coastail Zone Land Use Planning, Robert A. Gearheart, George H. Allen and Frank R. Klopp, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), PJ08-728. TDCs: Planner's Dream or Builder's Nightmare? Jo Lynn Lambert, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p79-101.

Land usage regulations

Hydrologic Delineation of Nonpoint Source Contributing Areas, William J. Gburek, EE Oct. 83, p1035-1048.

Legal Considerations for Special Area Management, Daniel S. Carol and David J. Brower, (Coastal Zon '83, Orville T. Magoon, et al, eds., 1983), p2073-2085.

Deepening Los Angeles Harbor, Daniel Muslin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p227-233.

Does Landfill Leachate Make Clay Liners More Permeable? David C. Anderson, CE Sept. 82, p66-69. EPA's New Land Disposal Rules—A Closer Look, Allen Morrison, CE Jan. 83, p44-49. Evaluation of the Effects of Landfill Leachate on Brook

Trout by Bioassay, Linfield C. Brown, Timothy W.

Drew and N. Bruce Hanes, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p789-796.

Field Evaluations of Volatilization Rate Models for Land Disposal Facilities, Seong T. Hwang, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p680-689. Hazardous Waste Landfill: Some Lessons from New

Jersey, Peter Montague, CE Sept. 82, p53-56.

Landfill Site Selection in Louisiana, Terence J.

McGhee, Vincent C. Provenza and Susan L. Titue,

(National Conference on Environmental Engineering,

Allen Medine, et al. eds., 1983), p342-349.

Leachate Collection Design for Containment Landfills, Edward A. McBean, Ronald Poland, Frank A. Rovers and Anthony J. Crutcher, EE Feb. 82,

p204-209.

Linear Programming in Hazardous Waste Manag

ment, J. Jeffrey Peirce and Gordon M. Davidson, EE Oct. 82, p1014-1026. The Liner Design Process for Landfills and Surface Impoundments, Glenn N. Coffman, (National Conet al, eds., 1983), p350-357.

Modeling Leachates at Landfill Boundaries, Haydar Erdogan and Ronald D. Neufeld, EE Oct. 83, p1181-1194. ference on Environmental Engineering, Allen Medine,

Recycling Methane from Landfills-A Pipe Dream or a Soon to be Economic Reality?, CE Apr. 83, p14.

Secure Landfills—Hopes and Fears, Lyse D. Helsing and Thomas T. Shen, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p670-679. Stabilization of Solid Waste in Landfills, Todd J.

Bookter and Robert K. Ham, EE Dec. 82, p1089-

Temperature Effects: Methane Generation from Landfill Samples, Kenneth E. Hartz, Robert E. Klink and Robert K. Ham, EE Aug. 82, p629-638.

Snowmelt Runoff Modeling Using Landsat Imagery, E. B. Jones, D. M. Frick, B. A. Shafer and A. Rango, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p484-493.

Development and Stability of Colluvium in Nashville, Lawrence C. Weber and L. E. Wilson, (Geological Environment and Soil Properties, Raymond N. Yong,

ed., 1983), p234-245.

Landslides in Soils Overlying Franciscan Assemblage, Vincent N. Pascucci, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182.

Modeling of Slide-Generated Waves in a Reservoir, M.

Hanif Chaudry, Albert G. Mercer and David Cass, HY Nov. 83, p1505-1520.

Mudslide Effects on Offshore Pipelines, Richard C Swanson and Warren T. Jones, TE Nov. 82, p585-

Possible 'Ductility' in a Material with Planar Discontinuities, Thomas M. Tharp, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p968-971.

Seismic Response of Steep Slopes in Cemented Soils, Nicholas Sitar and G. Wayne Clough, GT Feb. 83,

p210-227.

Valdez Silts: A Challenge in Design of Offshore Facilities, J. P. Singh and D. W. Quigley, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p81-98.

Land bearing capacity
Load Capacity of Concrete Bridge Decks, David B. Beal, ST April 82, p814-832.

Centimeter Precision Airborne Laser Ranging System, John J. Degnan, Werner D. Kahn and Thomas S. Englar, Jr., SU Aug. 83, p99-115.

Concurrent Forward and Backscatter LDA Measure-ment, Tak Kee Cheung and Jeffrey R. Koseff, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1291-1294.

LDV Measurements in Two-Dimensional Bent-Over

Jets, H. Haniu and B. R. Ramaprian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1299-1302.

Lateral displacement effect Ground Movement Analysis of Earth Support System, C. K. Shen, S. Bang and L. R. Herrman, GT April 81, p1609-1624

Lateral forces

Dynamics of Building Response with Foundation Uplift, Chik-Sing Yim and Anil K. Chopra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

on Civil Engineering Fractions 1983), p134-137.

Lateral-Distribution Factors for Fatigue Design, Charles G. Schilling, ST Sept. 82, p2015-2033.

Piers on Bridge Permit Thermal Movement and GE behave and

Resistance Against Lateral Forces, CE July 83, p19.

Approximate Method for Lateral Load Analysis of High Rise Buildings, Fernand K. E. C. Mortelmans, Guido P. M. J. De Roeck and Dionys A. Van Gemert, ST Aug. 81, p1589-1610.
Buckling of Beams with Concentrated Moments. Peter

E. Cuk and Nicholas Sr. Trahair, ST June 83,

p1387-1401.

Contact between Plates and Unilateral Supports, J. P. Dempsey, L. M. Keer and N. B. Patel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p419-422.

Design of Rigid Shafts in Clay for Lateral Load, Harry

M. Coyle and Mark W. Bierschwale, GT Sept. 83,

p1147-1164.

Design Optimization of Lateral Load Resisting Frameworks, Emmanuel E. Velivasakis and Robert DeScenza, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p130-143.

Elastic Analysis of Laterally Loaded Frames, Donald J.

Fraser, ST June 83, pl479-1489.
General Solution to Bending of Orthotopic Sectors, Carol Rubin, EM Feb. 83, pl68-174.
Lateral Dynamic Response of Constrained-Head Piles,

Alvaro Velez, George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081. Lateral Soil Resistance in Soil Pipe Interaction, A. P. S. Selvadurai, J. J. Lee, R. A. A. Todeschini and N. M. S. Somes, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p259-278.
Lateral-Load Tests of R/C Slab-Column Connections, Denby G. Morrison, Ikuo Hirasawa and Mete A.

Denby G. Morrison, Ikuo Hirasawa and Mete A. Sozen, ST Nov. 83, p2698-2714.

Laterally Loaded Pile Behavior, Michael Georgiadis and Roy Butterfield, GT Jan. 82, p155-165.

Nonlinear Analysis of Liquid Filled Tank, Wing Kam Liu and Dennis Lam, EM Dec. 83, p1343-1357.

Numerical Analysis of Structural Tee X-Bracing, Albert D. M. Lewis and Khosrow Nematollaahi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

Plastic Analysis of Laterally Loaded Circular Tubes, Carlos Guedes Soares and Tore H. Soreide, ST Feb.

83, p451-467.
Procedures for Analysis of Laterally Loaded Pile Groups in Soft Clay, Dewaine Bogard and Hudson Matlock, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE,

1983), p499-535.
Seismic Response of End Bearing Piles, Raul Flores-Berrones and Robert V. Whitman, GT April 82,

p554-569.

Shear Walls Coupled by Cross Wall, Wai K. Tso, ST Aug. 83, p2010-2016. Simplified Analysis of Bundled-Type Structures, Al-

exander Coull, Bishwanath Bose and Abdulla K.

Ahmed, ST May 82, p1140-1153.

Staggered Shear Panels in Tall Buildings, K. N. V. Prasada Rao and K. Seetharamulu, ST May 83. p1174-1193.

Lateral pressure
In Situ Stress Determination by Iowa Stepped Blade,
Richard L. Handy, Bernard Remmes, Steven Moldt, Alan J. Lutenegger and Gary Trott, GT Nov. 82, p1405-1422.

Initial Value Problems of Soil Mechanics, Jev K. Jeyapalan and Mark Lamborn, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p527-530.

- OCR Relationships in Soil, Paul W. Mayne and Fred H. Kulhawy, GT June 82, p851-872.
Nonlinear Analysis of Liquid Filled Tank, Wing Kam

Noninear Analysis of Liquid Filled Tank, Wing Kam Liu and Dennis Lam, EM Dec. 83, p1343-1357. Total Lateral Surcharge Pressure Due to Strip Load, Ramon Jarquio, GT Oct. 81, p1424-1428.

Lateral stability
Instability of Thin Walled Bars, Terence M. Roberts
and Zaven G. Azizian, EM June 83, p781-794.

Simple Question about Consolidation, John H. Schmertmann, GT Jan. 83, p119-122.

Laterites

Geological Factors Affecting Laterite Gravels, E. L. Krinitzsky and F. C. Townsend, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p137-149.

Geotechnical Properties of Residual Tropical Soils, R. A. Lohnes and T. Demirel, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983),

p150-166.

Remote Sensing Characterization of Nigerian Soils, Samuel Uche Ejezie, Thomas D. O'Rourke and Kingsley Harrop-Williams, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p332-350.

Lattice design Optimization of Structures in Nonlinear Response, Manohar P. Kamat and Layne T. Watson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p679-682.

Post-Buckling Equilibrium of Hyperstatic Lattices, S. J. Britvec and M. D. Davister, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1075-1078.

Launching

Oil Platform, CE June 83, p44-45.

Layered systems

Frictional Slip Between Layer and Substrate, David Schmueser, Maria Comninou and John Dundurs, EM

Dec. 81, p1103-1118.

A Model for Yield of Bi-Phase Lamellar Eutectics. H. W. Lord, D. H. Lassila and R. Mayer, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p511-514. Interface of an Anisotropic Layered Composite, Phuong H. Hoang and T. C. T. Ting, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p479-482. Singularities at the Tip of a Crack Normal to the

Leachate collection

Leachate Collection Design for Containment Landfills, Edward A. McBean, Ronald Poland, Frank Rovers and Anthony J. Crutcher, EE Feb. 82, p204-209.

Leachate collection systems Hazardous Waste Landfill: Some Lessons from New Jersey, Peter Montague, CE Sept. 82, p53-56.

Chemical-Physical Leachate Treatment, John D. Keenan, R. Lee Steiner and A. Alexander Fungaroli,

Keenan, R. Lee Steiner and A. Alexander Fungaroli, EE Dec. 83, p1371-1384. Design of Natural Attenuation Landfills, Amalendu Bagchi, EE Aug. 83, p800-811. Does Landfill Leachate Make Clay Liners More Premeable? David C. Anderson, CE Sept. 82, p66-69. Evaluation of the Effects of Landfill Leachate on Brook Trout by Bioassay, Linfield C. Brown, Timothy W. Drew and N. Bruce Hanes, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p789-796.

Implementation of a Field Experiment on Groundwater Transport of Organic Solutes, Douglas M. Mackay, John A. Cherry, David L. Freyberg, Gary D. Hopkins, Perry L. McCarty, Martin Reinhard and Paul V. Roberts, (National Conference on Environmental Engineering, Allen Medine, et al. eds., 1983).

Modeling Leachates at Landfill Boundaries, Haydar Erdogan and Ronald D. Neufeld, EE Oct. 83,

p1181-1194.

Passive Treatment of Sulfide Stockpile Runoff, Kim Lapakko and Paul Eger, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p643-651.

Potential for Groundwater Attenuation of Mutagenic Compounds from Raw and Spent Oil Shales, Robert E. Hinchee and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et

al, eds., 1983), p744-750. Prediction Models for Sanitary Landfills, Haydar Erdogan, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p540-

547 Leaching

Chemical Reactions within the Root Zone, J. D. Oster and K. K. Tanji, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p399-408. Ground-Water Mounding due to On-Site Sewaj

Disposal, E. John Finnemore and Norman N.

Hantzsche, IR June 83, p199-210. Increasing Irrigation Efficiencies and Their Effect on Nitrates in the Environment, William F. Ritter and Katherine A. Manger, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p417-426.
Land Treatment of Synfuel Organic Sludges, Edward C

Davis, Margaret R. Helton and Della S. Marshall, EE

Oct. 83, p1068-1081.

Leaching Requirements for Managing Salinity, Glenn J. Hoffman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p409-416.
Prevention of Acid Drainage from Stored Coal, Harvey

Olem, Tracey L. Bell and Jeffery J. Longaker, EY June 83, p103-112.

Does Landfill Leachate Make Clay Liners More Permeable? David C. Anderson, CE Sept. 82, p66-69. Least squares method

Concomitant Strength Relationship for Lumber, Robert

J. Tichy, ST Aug. 83, p1854-1868.

Legal aspects

re "No Damages for Delay" Clauses Really Effective, Michael C. Loulakis, CE July 83, p31.

The CM's Liability to Other Parties—Negligence, Robert J. Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p30-37.

Consolidation of Arbitration Proceedings, Michael C. Loulakis, CE Apr. 83, p34.

Engineers and Attorneys Explore Structural Failures,

CE Dec. 83, p64. Legal and Institutional Aspects of Siting Low-Level Waste Shallow Land Burial Sites, Leonard Slosky and Mary Whitman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p296-302.

Legal Control of Disruption of Aquifers Due to Coal Mining, George H. Davis, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p105-112.

Legalities of Construction Failure Covered, CE Sept.

83, p93

Negligent Supervision: How the Engineer is Liable, CE Nov. 82, p20.

Pre-Bid Discussions with Contractors, CE Jan. 83, p26. Preliminary Design Services—Not Simply a Proposal, Michael C. Loulakis, CE June 83, p30.

Recovery of Home Office Overhead in a Construction Delay Claim-- the Rejection of the Eichleay Formula, CE Sept. 83, p36.

Subrogation: Enforcing Flood Plain Management, Robert D. Sokolove, El July 83, p195-207.

Transnational Legal Issues and Fundy Tidal Power, Robert W. Rudolph and Peter F. Larsen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

Responding to the Challenges of Engineering Practice, Adolph J. Ackerman, El Apr. 80, p137-159.

Legislation Acid Rain Politics Will Carry Into the 98th Congress, Frank D. Musica, CE Dec. 82, p96

Environmental Assessment in Ontario, Canada, Fred-

erick A. Curtis, UP Nov. 81, p1-17.

Evolution of Highway Safety Legislation, James E. Wilson, (The Role of the Civil Engineer in Highway) Safety, Martin E. Lipinski, ed., 1983), p3-13. A Government Engineers' Personal Liability, Paul D.

Barber, El Apr. 83, p81-84.

Economic Feasibility of Flood Control Improvements, Ralph A. Wurbs, WR Jan. 83, p29-47.

Estimating Failure Probabilities for California Levees, James M. Duncan and William N. Houston, GT Feb. 83, p260-268.

Liability

Liability
The CM's Liability to Other Parties—Negligence,
Robert J. Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p30-37.
The CM's Liability to the Client—Malpractice, Charles
R. Holton, (Liability in Construction Management,
David M. Lee, ed., 1983), p22-29.
A Government Engineers' Personal Liability, Paul D.
Barbar El Apr 83, n81.84

Barber, El Apr. 83, p81-84. Highway Improvement Programs and Liability, John L. Grubba, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p170-178. Issues in Professional Construction Management, Clyde B. Tatum, CO March 83, p112-119.

Liability and Highway Design, George L. Reed, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p179-190.
Liability: Attitudes and Procedures, Robert E. Vansant,

El Oct. 83, p276-281.

Liability in Construction Management, David M. Lee, 1983, 83pp

Liability Problems Analyzed, CE Aug. 83, p17. Negligent Supervision: How the Engineer is Liable, CE

Nov. 82, p20. One Way to Beat Frivolous Lawsuits, CE Oct. 83, p22. Potential Malpractice Liability of Civil Engineers, Walter E. Jensen, Jr. and Frank P. Land, El July 83,

p170-184. Subrogation: Enforcing Flood Plain Management,

Robert D. Sokolove, El July 83, p195-207. Toxic Torts, Jerry Ross, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p11-14.

Water Diversion Contractor Liable, CE Jan. 83, p14.

Liability insurance

Comprehensive Insurance Occurance, CE June 83, p20.

Insurance, CE June 83, p22.
Liability in Construction Management, David M. Lee, ed., 1983, 83pp.

Liability Insurance, Completed Operations, CE July 83,

Liability Insurance, Deductible Clause, CE Aug. 83,

Liability Insurance More Popular, CE Apr. 83, p36. Professional Liability Coverage for the CM, Homer M. Sandridge, (Liability in Construction Management, David M. Lee, ed., 1983), p38-42.

License, CE Aug. 83, p18.
Nuclear Facilities Siting, Task Committee on Nuclear Effects of the Committee on Air Resources and Environmental Effects Management of the Envi-ronmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.), 1982, 62pp.

Licensing

Contractor's License, CE June 83, p22. Intercity License, Unconstitutional, CE Apr. 83

Licensing, CE June 83

Life cycles

Bus Maintenance Planning with Computer Simulation,

T. H. Maze, George C. Jackson and Utpal Dutta, TE

May 83, p389-342.

Optimum Floor Elevation in Storm Tide Flood Zones,

Courtland A. Collier and James R. Williams, Jr., WW

Feb. 83, p41-53.

What Type of Sewer Pipe is Best? Life-cycle Cost Analysis Yields Answer, Thomas Moss and Edward J. Jankiewicz, CE Oct. 82, p75-76.

Lifeline systems
Advisory Notes on Lifeline Earthquake Engineering,
The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (William J. Hall, chmn.), 1983, 232pp.
Optimizations in Seismic Reliability of Lifelines,

Jamshid Mohammadi, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engi-neering Practice, W. F. Chen, et al, eds., 1983), p106-109.

Probabilistic Analysis of Tornado Wind Risks, Lawrence A. Twisdale and William L. Dunn, ST Feb. 83, p468-488.

Reliability Analysis of Lifeline Systems, Hideji Kawa-kami, TC Aug. 83, p117-131.

Lift and Drag on Stationary Capsule in Pipline, Henry Liu and Harald R. Graze, HY Jan. 83, p28-47 Pressure on Annular Wing Surface, Pai-Mow Lee and Chi-Kai Kwok, HY Feb. 83, p235-253.

Lift System for Raising Continuous Concrete Bridges, George E. Ramey, TE Sept. 83, p733-746. Lifting of Heavy Elastic Sheet, C. -Y. Wang, EM Feb. 83, p47-53.

Lignocellulose

Activated Carbon: Sorption of DOC from Wastewater, Frederick S. Cannon and Paul V. Roberts, EE Aug. 82, p766-783.

Lime

Bench Scale Treatability Study of Acid Mine Drainage, Paul F. Meyerhofer and Bryant L. Bench, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p471-478.
Chemical-Physical Leachate Treatment, John D.

Keenan, R. Lee Steiner and A. Alexander Fungaroli, EE Dec. 83, p1371-1384.

Limit analysis

Plastic Shear Hinges in Steel Frames, Daniel N. Manheim and Egor P. Popov, ST Oct. 83, p2404-2419.

Limit design

Code Comparisons of Factor Design for Wood, James R. Goodman, Zsolt Kovacs and Jozsef Bodig, ST Aug. 81, p1511-1527.

Concrete Plate Reinforcement: Frictional Limit Design Zdenek P. Bazant and Chuan Lin, ST Nov. 82, p2443-2459.

Limit Design in Cold-Formed Steel, Muzaffer Yener and Teoman Pekoz, ST Sept. 83, p2033-2047.

Limit design method Piecewise Linear Yield Criteria in Invariant Form Robert M. Haythornthwaite, EM Aug. 83, p1016Reliability of Parellel Structural Systems, Robert E. Melchers, ST Nov. 83, p2651-2665.

Safety Checking Formats for Limit States Design, Bruce Ellingwood, ST July 82, p1481-1493.
Yield-Line Analysis of Slabs-on-Grade, Robert A.
Baumann and Frank E. Weisgerber, ST July 83,

p1553-1568.

Linear functions

On the Coupling of Finite Element and Boundary Element Methods, J. Bielak, R. C. MacCamy and D. S. McGhee, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p150-153.

Linear programming
Linear Programming in Hazardous Waste Management, J. Jeffrey Peirce and Gordon M. Davidson, EE Oct. 82, p1014-1026.

Optimization of Gravity-Fed Waste Distribution Systems: Theory, Pramod R. Bhave, EE Feb. 83, p189-205. Optimization of Gravity-Fed Water Distribution Sys-

tems: Application, Pramod R. Bhave, EE Apr. 83,

p383-395

Resource Sharing in Linear Construction, Srilal Perera, CO March 83, p102-111.

Equivalent Linearization for Continuous Systems, C. M. Krousgrill, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p271-274. Investigation of Daily Flow Forecasting Models, Hasan Yazicigil, A. Ramachandra Rao and G. H. Toebes,

WR March 82, p67-85.
Peak Response of Hysteretic Structures, Faisal Wafa and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p214-217. Random Equivalence in Engineering Mechanics, Sayed M. Metwalli, (Recent Advances in Engineering Me-

chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p275-278. Steady-State and Transient Responses of Linear Struc-

tures, Anestis S. Veletsos and Ashok Kumar, EM Oct. 83, p1215-1230.

Steady-State and Transient Responses of Linear Structures, A. S. Veletsos and Ashok Kumar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p212-213.

Does Landfill Leachate Make Clay Liners More Permeable? David C. Anderson, CE Sept. 82, p66-69. Hazardous Waste Landfill: Some Lessons from New

Jersey, Peter Montague, CE Sept. 82, p53-56.

The Liner Design Process for Landfills and Surface Impoundments, Glenn N. Coffman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p350-357.

Frost Inducing Slides on Membrane-Lined Canal Slopes, Chester W. Jones, CE Nov. 83, p68-69. Transversely Isotropic Medium with Lined Hole, K. Chandrashekhara and P. Gopalakrishnan, EM Apr. 83, p377-393.

Liquefaction

Analyses of Flow Failures of Mine Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton

Seed, GT Feb. 83, p150-171.

Dynamic Response and Liquefaction of Earth Dams,
Tareg Ahmad Mansouri, John D. Nelson and Erik G.

Thompson, GT Jan. 83, p89-100.

Thompson, GT Jan. 83, p89-100. Equivalent Stationary Motion for Liquefaction Study, Jeen-Shang Lin, Robert V. Whitman and Erik H. Vanmarcke, GT Aug. 83, p1117-1121. Evaluation of Liquefaction Potential Using Field Performance Data, H. Bolton Seed, I. M. Idriss and Ignacio Arango, GT March 83, p458-482. Group Effect on Piles in a Liquefying Sand Deposit, Pedro A. De Alba. (Geotechnical Practice in Offshore.

Pedro A. De Alba, (Geotechnical Practice in Offshore

Engineering, Stephen Wright, ed., New York: ASCE, 1983), p300-314.

Increase in SPT N-Values Due to Displacement Piles, Mysore S. Nataraja and Barbara E. Cook, GT Jan. 83, p108-113.

horstigation of Flow Failures of Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton Seed, GT Feb. 83, p172-189.
Liquefaction Sites, Imperial Valley, California, T. Leslie Youd and Michael J. Bennett, GT March 83, p440-457.

Ocean Wave-Induced Liquefaction Analysis, M. S. Nataraja and H. S. Gill, GT Apr. 83, p573-590. Pile Settlement in Liquefying Sand Deposit, Pedro A. De Alba, GT Sept. 83, p1165-1180.

Response of Seafloor to Ocean Waves, W. D. Liam

Finn, R. Siddharthan and G. R. Martin, GT Apr. 83,

p556-572. Sensitivity of Very Hard Pliocene Marl, Panaghiotis C. Kotzias and Aris C. Stamatopoulos, GT Dec. 83, p1526-1533.

Transient Stresses Induced in Sandbed by Wave Loading, Kenneth R. Demars, GT Apr. 83, p591-602.

Liquid limit
Critical Reappraisal of Plasticity Index of Soils, T. S. Nagaraj and M. S. Jayadeva, GT July 83, p994-1000.

Liquids

Analytical Evaluation of Axisymmetrical Dynamic Characteristics of Cylindrical Tanks, Medhat A. Haroun and Magdy A. Tayel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p283-286.

Tests of Small Scale Liquid Storage Tanks, Barry J. S. Liu, Robert H. Kirchhoff and William A. Nash, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p573-576.

Wind Effects on Gas-Liquid Transfer Coefficients, Donald J. O'Connor, EE June 83, p731-752.

The Use of Project Records for Litigation, Edward R. Fisk, (Liability in Construction Management, David M. Lee, ed., 1983), p68-72.

Irregular Wave Refraction Due to Current, Tetsuo Sakai, Masahiko Koseki and Yuichi Iwagaki, HY

Saat, Wasania Woods.

Sept. 83, p1203-1215.

Longshore Currents with Wave Current Interaction, Robert A. Dalrymple, WW Aug. 80, p414-420.

Modeling Longshore Currents for Field Situations, Seetharama R. Vemulakonda, James R. Houston and H. Lee Butler, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1659-1676.

New Framework for Prediction of Longshore Currents, C. A. Fleming and D. H. Swart, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed.,

1983), p1640-1658.

Littoral currents
An Analytical Expression for the Calculation of Longshore Currents on Beaches with Curved Bed Profiles, Mohamed N. Y. Anwar, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2431-2447. Long Waves over the Great Barrier Reef, Eric Wolan-

ski, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p219-227.

A Model of Longshore Sediment Transport Processes in the Surf Zone, Ole Secher Madsen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Modelling of Sea-Bed Evolution under Waves Action, Y. Coeffe and P. H. Pechon, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1149-1160.

Littoral deposits
Beach Evolution Caused by Littoral Drift Barrier, Deva K. Borah and Armando Balloffet, (Coastal Structures '83, J. R. Weggel, ed., 1983), p690-702. Breakwaters for Beach Protection at Lorain, OH, Joan

Pope and Darlene D. Rowen, (Coastal Structures '83, J. R. Weggel, ed., 1983), p753-768. Field Experiments on Longshore Sand Transport in the Surf Zone, Nicholas C. Kraus, Masahiko Isobe, surt Zone, Nicholas C. Kraus, Masahiko Isobe, Hajime Igarashi, Tamio O. Sasaki and Kiyoshi Horikawa, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), 969-988. Low-Cost Measurements of Shoreline Change, Robert M. Clancy, Fred E. Camfield and Christine Schneider, (Coastal Extructures '83, J. R. Weggel, ed., 1983), p717-726.

Properties of the Mediterranean Coastal Rock-Soil Units Relative to Regional Control, A. Komornik and G. Hayati, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p433-446.
Shoreline Changes Downdrift of a Littoral Barrier,
Craig H. Everts, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p673-689.

Littoral drift

Beach Evolution Caused by Littoral Drift Barrier, Deva

R. Borah and Armando Balloffet, (Coastal Structures '83, J. R. Weggel, ed., 1983), p690-702.

Changes in the Coastal Morphology of Vrachati, Greece, C. I. Moutzouris and A. J. Rogan, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1028-1045.

Edge, ed., 1983), p1028-1043.

Computational Algorithm for Longshore Energy Flux Incorporating Friction, T. L. Walton, Jr. and J. R. Weggel, (Proceedings of Coastal Engineering 82, Vol.11, Billy L. Edge, ed., 1983), p1046-1061.

Description of Beach Changes Using an Empirical Predictive Model of Beach Profile Changes, Takaaki

Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1405-1418.

Field Investigation of Beach Profile Changes and the Analysis Using Empirical Eigenfunctions, Hiroshi Hashimoto and Takaaki Uda, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1369-1384.

Field Investigation of Longshore Transport Distri-bution, E. P. Berek and R. G. Dean, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1620-1639.

Homer Spit: Littoral Drift and Degradation, Dennis Nottingham, Brent T. Drage, Jeffrey Gilman and Jeanne Adams, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2343-2360. Littoral Problems in the Portuguese West Coast, I. B.

Mota Oliveira, A. J. S. F. Valle and F. C. C. Miranda, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p1950-1969. Model Tests on Littoral Sand Transport Rate, J. W Kamphuis and O. F. S. J. Sayao, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1305-1325.

New Framework for Prediction of Longshore Currents, C. A. Fleming and D. H. Swart, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1640-1658.

The Rate of Longshore Sediment Transport and Beach Erosion Control, Yoshito Tsuchiya, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1326-1334.

Shoaling with Bypassing for Channels at Tidal Inlets, Cyril Galvin, (Proceedings of Coastal Engineering 82,

Vol. II, Billy L. Edge, ed., 1983), p1496-1513.
Suspended Sediment Discharge on a Non-Tidal Coast,
J. P. Coakley and M. G. Skafel, (Proceedings of
Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1288-1304.

Probabilistic Load Duration Model for Live Loads, Ross B. Corotis and Wen-Yang Tsay, ST Apr. 83, p859-874.

Shearing Stress due to Prestress in Variable Depth Beam, Shih Toh Chang, ST July 82, p1648-1653. Statistical Analysis of Timber Bridges, Baidar Bakht,

ST Aug. 83, p1761-1779. Wharf Decks - Design Load vs. Cost, Ralph W. Junius,

(Proceedings of Ports 83, Kong Wong, ed., 1983). p570-583.

Load bearing capacity
Collapse of Plate Girders under Edge Loading, Terence M. Roberts and Chooi K. Chong, ST Aug. 81, p1503-1509.

Lateral Load Effect on Strength of Steel Arch Bridge Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449. Limit Design in Cold-Formed Steel, Muzaffer Yener and Teoman Pekoz, ST Sept. 83, p2033-2047.

Bending of Circular Plate on Elastic Foundation, K. Kamal and S. Durvasula, EM Oct. 83, p1293-1298. Buckling of Columns with Nonmovable Boundaries, Michael M. Bernitsas and Theodore Kokkinis, ST

Sept. 83, p2113-2128.

Large Deflections of Nonlinear Elastic Beams under Uniformly Distributed Loads, Frank Monasa and Uniformy Distributed Loads, Frank Monasa and Gilbert Lewis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p455-458. Modal Methods in Continuous Bridge Deck Statics, Antonio G. Zechini, ST June 83, p1507-1517. Nonlinear Finite Element Analysis of Clamped Arches, Philip R. Calhoun and Donald A. DaDeppo, ST March 93, p509-619.

March 83, p599-612.

Nonprismatic Folded Plates: Tests, Hasmukh Vithalbhai Trivedi, Sachchidanand Sinha and Kaveti Seetharamulu, ST Oct. 83, p2463-2473.

Point Loads on Precast Concrete Floors, John F. Stanton, ST Nov. 83, p2619-2637.

Shear Lag in Box Girders, Bogdan O. Kuzmanovic and H. James Graham, ST Sept. 81, p1701-1712. Simplified Analysis of Bundled-Type Structures, Al-

exander Coull, Bishwanath Bose and Abdulla K. Ahmed, ST May 82, p1140-1153.

Load duration

Carbards and Carol L. Link, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p940-943.

Load-Duration Effects in Westerm Hemlock Lumber, Ricardo O. Foschi and J. David Barrett, ST July 82,

p1494-1510.

Probabilistic Load Duration Model for Live Loads, Ross B. Corotis and Wen-Yang Tsay, ST Apr. 83, p859-874.

Load factors

Autostress Design of Steel Bridges, Geerhard Haaijer, Phillip S. Carskaddan and Michael A. Grubb, ST Jan. 83, p188-199.

Code Comparisons of Factor Design for Wood, James R. Goodman, Zsolt Kovacs and Jozsef Bodig, ST

Aug. 81, p1511-1527.

Probability Based Load Criteria: Assessment of Current Design Practice, Theodore V. Galambos, Bruce Ellingwood, James G. MacGregor and C. Allin Cornell, ST May 82, p959-977.

Reliability-Based Design of Wood Transmission Line Structures, James R. Goodman, M. Daniel Vanderbilt and Marvin E. Criswell, ST March 83, p690-704.

Risk Analysis Procedure for Code Optimization, Andrzej S. Nowak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p851-854.

Load tests
1916 Wharf Tested and Used to Accommodate New Shiploading System, A. James Siebert, III, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p512-526

Buckling of Eccentrically Loaded Curved Panels, Ted T. Sokol, Jr., ST Sept. 83, p2097-2112. Design of Rigid Shafts in Clay for Lateral Load, Harry M. Coyle and Mark W. Bierschwale, GT Sept. 83, p1147-1164.

Lateral-Load Tests of R/C Slab-Column Connections, Denby G. Morrison, Ikuo Hirasawa and Mete A.

Sozen, ST Nov. 83, p2698-2714. Load-Duration Effects in Westerm Hemlock Lumber, Ricardo O. Foschi and J. David Barrett, ST July 82. p1494-1510.

Side Load Transfer in Driven and Drilled Piles, Michael W. O'Neill, GT Oct. 83, p1259-1266.

Static Plate Loading Tests on Overconsolidated Clay Knut H. Andersen and Per Stenhamar, GT July 82,

Load transfer

Effect of PCC Shoulders on Adjacent Concrete Lanes, Jihad S. Sawan, TE March 83, p312-324.

Side Load Transfer in Driven and Drilled Piles, Michael W. O'Neill, GT Oct. 83, p1259-1266.

Comment on Orthotropic Models for Concrete and Geomaterials, Zdenek P. Bazant, EM June 83, p849-865.

Loading Mode Effects on Pavement Deflections, Mario

S. Hoffman, TE Sept. 83, p651-668.
Recommended Design Loads for Bridges, Committee on Loads and Forces on Bridges of the Committee on Bridges of the Structural Division, ST July 81, p1161-1213.

Loading areas
1916 Wharf Tested and Used to Accommodate New Shiploading System, A. James Siebert, III, (Proceedings of Ports 83, Kong Wong, ed., 1983), p512-526.

Modernization of Conrail's Pier 124, Frank J. Tencza, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p635-648.

Rehabilitation of a Wharf, H. Thomas Kornegav and Klaus Von Dobeneck, (Proceedings of Ports 83, Kong Wong, ed., 1983), p749-757.

Plates of Varying Thickness with Four Simply Supported Edges, Fan Jia-rang, EM Feb. 82, p167-173.

Recommended Design Loads for Bridges, Committee on Loads and Forces on Bridges of the Committee on Bridges of the Structural Division, ST July 81, p1161-1213.

Reliability of Nonlinear Framed Structures, Tai-Yan Kam, Rose B. Corotis and Edwin C. Rossow, ST July

83, p1585-1601.

Local governments Integration of Coastal Zone Management Concerns at the Local Government Level in Maryland, Earl H. Bradley, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1340-1351.

Involvement of Engineers in Public Affairs, Milton

Mortman, El Oct. 82, p251-262.

Local Endangered Species Preservation Palm Bay, Florida, Diane D. Barile, Kevin McMillian and Todd Clorida, Diane D. Barile, Kevin McMillian and Todd Gipe, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p769-782.
Time for Engineers to be Involved in Their Communities, Frank Musica, CE July 83, p112.

Microstructure of Loess Soil in China Relative to Geologic Environment, Gao Guorui, (Geological Environment and Soil Properties, Raymond N. Yong,

ed., 1983), p121-136.

Stress-Deformation Properties of Loess and Loess-Derived Alluvium in Western Iowa, Joe M. Bradford and L. Darrell Norton, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p99-120.

Longshore deposits
Littoral Processes in Campello Coasts, J. J. Diez and M.

Arenillas, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p989-1007. Longshore Transport Determined by an Efficient Trap, R. G. Dean, E. P. Berek, C. G. Gable and R. J. Seymour, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p954-968.

Downgrading Construction Incidents, V. K. Handa and Doug Rivers, CO June 83, p190-205.

Landfill Site Selection in Louisiana, Terence J. McGhee, Vincent C. Provenza and Susan L. Titus, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p342-349.

Low flow

Bed Material Sorting in Pools and Riffles, Nani G.

Bhowmik and Misganaw Demissie, HY Oct. 82,

Low-rise buildings
Fluctuating Wind Pressures on Low Building Roofs,
Theodore Stathopoulos, ST Jan. 83, p266-271.
Inelastic Earthquake Response of Steel Structures,
Alvar M. Kabe and Dixon Rea, ST March 83,

p705-720.

Wind Pressures on Low Buildings with Parapets, Theodore Stathopoulos, ST Dec. 82, p2723-2736.

Mutual Interference Drag on Signs and Luminaires, James F. Marchman, III. and Todd D. Werme, ST Oct. 82, p2235-2244.

Lysimeters
Soil Surface Evaporation and Water Table Depths, Sun F. Shih, IR Dec. 83, p366-376.

Machine foundations

Nacume foundations
Study on Vibration of Framed Machine Foundation,
Zhang Daming, Ma Zesheng, Lin Weisong, Wu
Zhangzhu and Wei Yuan, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983), p519-522.

Maintenance

Bus Maintenance Planning with Computer Simulation, T. H. Maze, George C. Jackson and Utpal Dutta, TE May 83, p389-342.

Corps of Engineers Navigation Structure Maintenance, John R. Mikel, (Proceedings of Ports 83, Kong Wong, ed., 1983), p527-531.

Historical Account of the Construction and Maintenance of Drydock No. 1 Long Beach Naval Shipyard, Long Beach, California, Ross A. Morrison, (Proceedings of Ports 83, Kong Wong, ed., 1983), p730-744.

Maintenance Standards for a Distribution System with a Limited Water Supply, Lowell F. Ploss, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p154-159.

Preliminary Inspection of Pier Structures, Bryan D. Wesselink and Richard B. Harley, (Proceedings of Ports 83, Kong Wong, ed., 1983), p51-61.

Structural Evaluation of Marine Structures, Jerry J.

Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p662-677.

Maintenance costs

Corps of Engineers Navigation Structure Maintenance, John R. Mikel, (Proceedings of Ports 83, Kong Wong, ed., 1983), p527-531.

New Wastewater Process Cuts Plant Costs 60%, Stan A

Christopher and Russel Titus, CE June 83, p39-41.
Operation and Maintenance Costs and Water Use by Idaho Irrigation Projects, Richard G. Allen and Charles E. Brockway, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p160-174.

Traffic Signal Maintenance Requirements, Walter H. Kraft and J. Robert Doughty, TE May 83, p471-478. The Transportation Utility, Thomas E. Hays, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p64-71.

Mall, CE June 83, p54-55.

Management
Fast Track Methods for Management Development, Melville Hensey, EI July 83, p223-228.

Management of Small and Medium Sized Civil Engi-

neering Firms, C. Kenneth Giberson, El Jan. 83, p18-20.

Management methods

Improving Productivity, J. R. King, Jr., ed., 1983,

101pp.

Stormwater Pollution Control: Best Management Practices, E. John Finnemore, EE Oct. 82, p835-851. Striving for Perfection, Kate Ludemen, CE Oct. 83, p36.

Management planning
Fast Track Methods for Management Development. Melville Hensey, El July 83, p223-228.

Management systems

Authority Structures for Construction Project Man-

agement, Randolph Thomas, John M. Keating and Allen C. Bluedorn, CO Dec. 83, p406-422.
Construction Evaluation and Management Using DBMS, Alan Stewart Nanco, (Proceedings of the Eighth Conference on Electronic Computation, James

End-User Systems Boost MIS Productivity, W. Dennis Moran and R. Timothy Heatwole, (Improving Productivity, J. R. King Jr., ed., 1983), p67-78. Improving Productivity, J. R. King, Jr., ed., 1983, p68-78.

iOlpp.

Macrofirms: Construction Firms for the Computer Age, Gianfranco Dioguardi, CO March 83, pl3-24. Management Control System San Diego Water Utili-

ties, Richard W. King, (Improving Productivity, J. R. King Jr., ed., 1983), p89-98.

Managing Limited Transportation Resources in Penn-

sylvania's Department of Transportation, James I.

Scheiner, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p89-93. Microcomputers in Field Project Management, Robert E. Dapogny and Charles W. Brodhead, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p253-266.

Project Systems via Satellite Communications, Daniel J. McDermott, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p267-277.

Mapping Aerial Profiling of Terrain System, Edward J. Cyran, SU Aug. 83, p136-150.

Historical and Projected Shoreline Mapping, Stephen P. Leatherman, (Coastal Zone '83, Orville T. Magoon, et

Leatherman, (Coastal Zone '83, Orville 1. Magoon, et al, eds., 1983), p2902-2910.

Map Content and Symbols: Chapter V of Proposed Manual on Map Uses, Scales, and Accuracies for Engineering and Associated Purposes, Robert P. Jacober, Jr., SU Nov. 80, p41-72.

Map Uses, Scales and Accuracies for Engineering and ssociated Purposes, Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chmn.), 1983, 168pp.

Photogrammetric Mapping for Highways, Roger R. Chamard, SU March 83, p1-5.

Trends in Atlantic and Gulf Coastal Wetlands, John M.

Hefner, James D. Brown and Bill O. Wilen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p372-379.

Two Mapping Societies Vote Down Merger, CE Nov.

The Use of a GIS for Gulf of Mexico Wetland Change, James B. Johnston and Robert R. Ader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p362-371.

Map Content and Symbols: Chapter V of Proposed Map Content and Symbols: Chapter V of Proposed for Uses Scales and Accuracies for Manual on Map Uses, Scales, and Accuracies for Engineering and Associated Purposes, Robert P. Jacober, Jr., SU Nov. 80, p41-72.

Map Uses, Scales and Accuracies for Engineering and Associated Purposes, Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chmn.), 1983, 168pp.

Marinas

Engineering and Planning Considerations for Boating Facilities Siting on the California Coast, Susan H. Anderson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2859-2865.

Residence Time: Application to Small Boat Basins, Jacobus van de Kreeke, WW Nov. 83, p416-428. Yacht Harbours in the United Kingdom, J. D. Mettam, P. C. Mornement and J. G. Berry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2332-2341.

Marine animals

Selchies, Sirens, Sea Turtle Management and Other Marine Myths, John G. Frazier, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2842-2844.

Marine engineering
Proceedings of the Conference on Geotechnical Practice in Offshore Engineering, Stephen G. Wright, ed.,

1983, 630pp.
Research Needs in Marine Surveying, Harold D. Palmer, SU April 82, p10-17.

Marine terminals

Advances in Geotechnical Engineering for Marine Terminal Facilities, E. E. Rinne, W. H. Roth and R. M. Moline, (Proceedings of Ports 83, Kong Wong, ed., 1983), p284-298.

Developments in Marine Container Terminals, Leo

Donovan and Phillip Radzikowski, (Proceedings of Ports 83, Kong Wong, ed., 1983), p97-106.
Discussion of the San Francisco Bay Area Seaport Plan, Dennis R. Fay, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), 273-286.

Economic and Technical Options for Obsolete Marine
Terminals, Victor V. Calabretta and Robert H.
Wardwell, (Proceedings of Ports 83, Kong Wong, ed., 1983), p30-41.

Lightweight Fill Helps Albany Port Expand, K. M. Childs, David L. Porter and Thomas A. Holm, CE April 83, p54-57.

Marine Facilities Maximize Efficiency at Coal Ter-

minal, CE Aug. 83, p14.

Marine Terminal Modifications Port of Albany, New York, David R. Carchedi and David L. Porter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p584-598.

Port of Portland Terminal Reconstruction Program, Margery Post Abbott, (Proceedings of Ports 83, Kong

Wong, ed., 1983), p74-83.

Proceedings of Ports 83, Kong Wong, ed., 1983, 832pp.

Reconstruction vs. New Construction, Stanley L. Maisel and William J. Funge, (Proceedings of Ports 83, Kong Wong, ed., 1983), p42-50.

Valdez Silts: A Challenge in Design of Offshore Facilities, J. P. Singh and D. W. Quigley, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p81-98.

Market research

A Market Pricing Approach to Fares, Michael Grovak, (Managing Urban Transportation with Limited Re-sources, Tom K. Ryden, ed., 1983), p72-78. Market Research and the Engineering Firm, Howard

Hoyt Hilton, CE Aug. 83, p55-57. Transit Fare and Marketing Innovations to Increase Revenue, Richard L. Oram, (Managing Urban Transortation with Limited Resources, Tom K. Ryden, ed., 1983), p79-88.

Marketing Market Research and the Engineering Firm, Howard Hoyt Hilton, CE Aug. 83, p55-57.

Markov chains

The Effect of Correlation on the Prediction of Extreme Values, Arvid Naess, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p545-548.

Markov Approximation to Transient Vibration, Poly-chronis-T. D. Spanos and George P. Solomos, EM Aug. 83, p1134-1150.

Maris

Sensitivity of Very Hard Pliocene Marl, Panaghiotis C Kotzias and Aris C. Stamatopoulos, GT Dec. 83, p1526-1533.

Marshes

An Assessment of Salt Marsh Restoration and Impliari Assessment of Sate Management, Margaret S. Race, (Coastal Zone Management, Margaret S. Race, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1473-1476.

California Coastal Salt Marsh Restoration Design, Philip B. Williams and H. Thomas Harvey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p1444-1456.

Erosion Control with Saltmarsh Vegetation, Hollis H. Allen and James W. Webb, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p735-748.

Marsh Restoration with Natural Revegetation: A Case

Study in San Francisco Bay, Phyllis Faber, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p729-734.

Salt Marsh Restoration: The Experimental Approach, Joy B. Zedler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2578-2586. The Use of a GIS for Gulf of Mexico Wetland Change,

James B. Johnston and Robert R. Ader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p362-371.

Masonry
Finite Element Method for Interface Problems, Santosh
K. Arya and Gilbert A. Hegemier, ST Feb. 82, p327-342.

Infills in Seismic Resistant Building, Vitelmo Bertero and Steven Brokken, ST June 83, p1337-1361.

Delenda Est Kilogram, Richard C. Gerke, El Apr. 81, p81-83.

Mass transfer

Gas-Film Coefficients for Streams, Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 83, p1111-1127. Volatilization of Organic Compounds from Streams, Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 82,

Mass transport Computation of Particle Paths Using the Lagrangian Long Wave Equations, M. A. Savoie and J. van de Kreeke, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p652-676. Drift Currents of Clean and Slick Sea Surfaces, Jin Wu,

(Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2386-2389.

Mass Transport in Vocoidal Theory, J. W. Gonsalves and D. H. Swart, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p328-341. Model of Mississippi River Pool: Dissolved Oxygen, Alexander C. Demetracopoulos and Heinz G. Stefan,

EE Oct. 83, p1020-1034.

Model of Mississippi River Pool: Mass Transport, Alexander C. Demetracopoulos and Heinz G. Stefan, EE Oct. 83, p1006-1019.

Orbital Motion of Water Particles in Oscillatory Waves,

Yen-hsi Chu, WW May 83, p260-265.
Sampling Strategies for Mass-Discharge Estimation,
Byron Bodo and T. E. Unny, EE Aug. 83, p812-829.

Bus Stop Location and Design, Michael J. Demetsky and Brian Bin-Mau Lin, TE July 82, p313-327. House Approves DOT Appropriations, CE Aug. 83,

New York's MTA Raises \$8.5 Billion for Mass Transit,

Allen Morrison, CE July 83, p42-45.
Subcommittee Opposes Mass Transit Cuts for 1984, CE April 83, p10.

Massachusetts

Public Access Planning in Massachusetts, Marjorie O'Malley, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2201-2221.

Mat foundations

New Subgrade Model Applied to Mat Foundations, John S. Horvath, GT Dec. 83, p1567-1587.

Cost Control at the Project Level: Construction Management, Dewayne E. Hahn, (Improving Productivity, J. R. King Jr., ed., 1983), p1-3.

Materials estimates

Direct Material Cost Tracking and Forecasting, Robert Templeton, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p236-245.

Materials, properties Analysis of Frozen Sand Beams, Robert K. Wen, Sweanum Soo and Orlando B. Andersland, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p790-793. Brittle or Ductile? Dusan Krajcinovic, (Recent Advances

in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1059-1062.

Cold Regions Earthwork, R. G. Tart, Jr., (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p32-37.

Elasto-Plastic Material Models, R. Janardhanam and C. S. Desai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p746-750.

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp.

Criterion for Mixed Mode Fracture in Wood, S. Mall, Joseph F. Murphy and James E. Shottafer, EM June

83, p680-690.

Mechanical Characterization of Oil Shale, Ken P. Chong and George F. Dana, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p782-785.

Materials, tests

Nonlinear Shear Material Model for a Multilayer Shell Finite Element, A. A. Sarhangnezhad and V. I. Weingarten, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p243-246.

Materials tests

Piecewise Linear Yield Criteria in Invariant Form, Robert M. Haythornthwaite, EM Aug. 83, p1016-1022

Strength of Anchor Bolts in Grouted Concrete Masonry, Russell H. Brown and A. Rhett Whitlock, ST June 83, p1362-1374.

Mathematical models

Adsorption of Hydrophobic Pollutants in Estuaries, John P. Connolly, Neal E. Armstrong and Richard W. Miksad, EE Feb. 83, p17-35.

Analysis of Sheathed Wood-Stud Walls, Chung K.

Cheung and Rafik V. Huani, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr. ed., 1983), p683-696. Applicability of Dam-Break Flood Wave Models,

Nikolaos D. Katopodes and David R. Schamber, HY

May 83, p702-721. Calculation of Coaxial Heated Water Discharge, Michael A. Leschziner and Wolfgang Rodi, HY Oct. 83, p1380-1385.

Circular Hydraulic Jump, John D. Lawson and Brett C. Phillips, HY Apr. 83, p505-518.

Effect of Tuned-Mass Dampers on Seismic Response, John R. Sladek and Richard E. Klingner, ST Aug. 83, p2004-2009.

Experience with Curve Numbers in EPIC, J. R. Williams and K. G. Renard, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p282-289. Field Calibration of Stream-Tube Dispersion Model, Forrest M. Holly, Jr. and Georges Nerat, HY Nov.

83, p1455-1470.

Ice Forecasting Model for Lake Erie, Shih-Huang Chieh, Akio Wake and Ralph R. Rumer, Jr., WW Nov. 83, p392-415.
Interactive Graphics for Design of Piping Systems, John F. Fleming, Theodore J. Batt, Thomas E. Campbell, Gary R. Ellis and Wayne R. Morrison, (Proceedings)

of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p580-593.

Long-Term Salinity Calculations in Delaware Estuary, M. Llewellyn Thatcher and Donald R. F. Harleman.

EE Feb. 81, p11-27.

Main Flow Velocity in Short River Bends, H. J. de
Vriend and H. J. Geldof, HY July 83, p991-1011. Mathematical Model for Erodible Channels, Howard

H. Chang, HY May 82, p678-689. Mathematical Modeling of Scour in Streams, David R. Dawdy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p64-69. Model for Pull-Out Strength of Anchors in Concrete, Walter H. Peier, ST May 83, p1155-1173.

watter H. Feier, 31 may 05, p113-113.
Model of Vacuum Deodorization of Sludge Odorants,
Jerry Y. C. Huang, George E. Wilson and Meng-Dawn Cheng, EE Aug. 83, p961-965.
Modeling Circulation in Depth-Averaged Flow, Victor

M. Ponce and Steven B. Yabusaki, HY Nov. 81, p1501-1518.

Modeling of Unsteady-Flow Water Temperatures, M. Hanif Chaudhry, David E. Cass and John E. Edinger, HY May 83, p657-669.

HY May 83, p657-669.

Modeling Stormwater Storage/Treatment Transients: Theory, Miguel A. Medina, Jr., Wayne C. Huber and James P. Heaney, EE Aug, 81, p781-797.

Net Energy Production in Wastewater Treatment, Edward D. Wetzel and Robert L. Johnson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p577-584.

New Subgrade Model Applied to Mat Foundations, John S. Horvath, GT Dec. 83, p1567-1587.

Optimal Operation of Multiple Reservoir Systems, Quentin W. Martin, WR Jan. 83, p58-74.

Particles in Thickening: Mathematical Model, Desmond F. Lawler, Philip C. Singer and Charles R. O'Melia, EE Apr. 83, p332-349.

Side Discharges into Open Channels: Mathematical

Side Discharges into Open Channels: Mathematical Model, Avodeji O. Demuren and Wolfgang Rodi, HY Dec. 83, p1707-1722.

Single Crane Location Optimization, Walter E. Rod-riguez-Ramos and Richard L. Francis, CO Dec. 83, p387-397

Technique for Calibrating Network Models, Thomas M. Walski, WR Oct. 83, p360-372.

Temperature Corrections to Rate Coefficients, R. Wane Schneiter and William J. Grenney, EE June 83,

Three-Dimensional Marine Models for Impact Studies, Jacques C. J. Nihoul and Francois C. Ronday, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p745-764.

Vertical Circulation in Density-Stratified Reservoir, Zygmunt Meyer, HY July 82, p853-873.

Water Quality: Fitting the Model to the Problem, Robert V. Thomann and John P. Connolly, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p166-173.

Zero-Inertia Modeling of Furrow Irrigation Advance, Ronald L. Elliott, Wynn R. Walker and Gaylord V.

Skogerboe, IR Sept. 82, p179-195.

Mathematical programming
Mathematical Programming in Structural Design, Scott
A. Burns and Subramanian Ramamurthy, ST July 83, p1669-1679.

Truncated Hollow Spheres, Terry D. Gerhardt and Shun Cheng, EM June 83, p885-895.

Method for Improving Incomplete Modal Coupling, Robert Bajan, Anant R. Kukreti and Chuan C. Feng,

EM Aug. 83, p937-949.

Practical Reduction of Structural Eigenproblems, Mario Paz, ST Nov. 83, p2591-2599.

Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289.

Elastic Critical Loads on Multistory Rigid Frames, Esmat S. Awadalla, ST May 83, p1091-1106.

Matrix reduction

Practical Reduction of Structural Eigenproblems, Mario Paz, ST Nov. 83, p2591-2599.

Maximum dry density Optimum Moisture Content for Compacting Soils: One-Point Method, I. H. Hamdani, IR June 83, p232-237.

Maximum load
Autostress Design of Steel Bridges, Geerhard Haaijer,
Phillip S. Carskaddan and Michael A. Grubb, ST Jan. 83, p188-199.

Maximum probable flood

Conservatism of Probable Maximum Flood Estimates, Bi-Huei Wang and Russell W. Revell, HY March 83, p400-408

Deterministic and Probabilistic Perspectives of the Deterministic and Probabilistic Perspectives of the PMF, Anand Prakash, (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p535-540. Hydrologic Evaluation of Dam Safety, Shou-Shan Fan, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p851-458. New Role of Drainage Systems in Dam Stability, William W. Stelle, Dennis I. Rubin, H. Joseph Buhac

and Paul H. Anderson, EY Sept. 83, p181-191. Realistic Assessment of Maximum Flood Potentials,

Donald W. Newton, HY June 83, p905-918 Stability of Concrete Dam: Case History, William W. Stelle, Dennis I. Rubin and H. Joseph Buhac, EY Sept. 83, p165-180.

Meandering stream

Plan Geometry of River Meanders, Howard H. Chang, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p133-140.

Meanders
Meander Bends of High Amplitude, Gary Parker,
Panayiotis Diplas and Juichiro Akiyama, HY Oct. 83,

Measurement
Simple Measurement Techniques for Area Wind Loads,
David Surry, Theodore Stathopoulos and Alan G.
Davenport, EM Aug. 83, p1058-1071.

Measuring instruments

Aerial Profiling of Terrain System, Edward J. Cyran,

Aerial Profiling of Terrain System, Edward J. Cyran, SU Aug, 83, p136-150.
Centimeter-Level Relative Positioning with GPS, Charles C. Counselman, III, Richard I. Abbot, Sergai A. Gourevitch, Robert W. King and Albert R. Paradis, SU Aug, 83, p81-89.
Dynamic In-Situ Calibration of Hot Film, M. Satyanarayana and K. Elango, WW Feb. 83, p133-137.
Earthquake Motions Using a New Data Processing Scheme, S. Shyam Sunder and Betsy Schumacker, FM Dec. 23, 2131, 1230.

EM Dec. 82, p1313-1329.

In Situ Stress Determination by Iowa Stepped Blade, Richard L. Handy, Bernard Remmes, Steven Moldt, Alan J. Lutenegger and Gary Trott, GT Nov. 82,

p1405-1422.

Revised Technique of Photographic Data Acquisition, Deane M. Manbeck and Gary Sherman, IR Dec. 83, p437-439.

Mechanical properties

Mechanical Characterization of Oil Shale, Ken P. Chong and George F. Dana, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p782-785.

Membrane reinforcement Strength Design of Shell Membrane Reinforcement, Morris N. Fialkow, ST Apr. 83, p891-908.

Flexible Dams Inflated by Water, Nicholas Manville Hitch and Rangaswami Narayanan, HY July 83, p1044-1048.

On Finding the Initial Sag of a Circular Membrane, Mohamed Samy Mansour and Vernon Charles Matzen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p403-406.

Ponding Instability of Inflated Imperfect Membranes,

Goodarz Ahmadi and Peter G. Glockner, ST Feb. 83, n297-313

Membranes, lini

Membranes, unugs Frost Inducing Sides on Membrane-Lined Canal Slopes, Chester W. Jones, CE Nov. 83, p68-69. Mechanical Performance Model for Roofing Mem-branes, James M. Pommersheim, Robert G. Mathey and James R. Clifton, ST June 83, p1431-1449.

Performance of Granular Soil Covers on Canal Linings, Chester W. Jones, IR March 83, p1-12.

Distortional Hardening Rules for Metal Plasticity, Miguel Ortiz and Egor P. Popov, EM Aug. 83, p1042-1057

Large-Strain Creep of Metals, Alan J. Levy and Macief P. Bieniek, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1067-1070.

On Micromechanics of Strength Degradation in Metals, On Micromechanics of Strength Degradation in Metals, S. Nemat-Nasser, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p642-643. Passive Treatment of Sulfide Stockpile Runoff, Kim Lapakko and Paul Eger, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), e642-651.

1983), p643-651. Simple Plasticity Model of Two-Surface Type, T. S.

Tseng and G. C. Lee, EM June 83, p795-810.
Ultimate Load Testing of Space Trusses, Lewis C.
Schmidt, Peter R. Morgan and Ariel Hanaor, ST June 82, p1324-1335.

Meteorological data
The Coastal Wind Field of the Southern Cape, Ian Tyrrell Hunter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2551-2561.
Realistic Assessment of Maximum Flood Potentials,
Donald W. Newton, HY June 83, p905-918.

Short-Term Records and Extreme Wind Speeds, Emil Simiu, James J. Filliben and James R. Shaver, ST Nov. 82, p2571-2577.

Meteorology

Application of Penman Equation Wind Function, Richard H. Cuenca and Martin T. Nicholson, IR

March 82, p13-23.
Weather Station Siting and Consumptive Use Estimates, Richard G. Allen, Charles E. Brockway and James L. Wright, WR Apr. 83, p134-136.

Methane generation

Methane generation
Net Energy Production in Wastewater Treatment,
Edward D. Wetzel and Robert L. Johnson, (National
Conference on Environmental Engineering, Allen
Medine, et al, eds., 1983), p577-584.
Recycling Methane from Landfills—A Pipe Dream or a
Soon to be Economic Reality?, CE Apr. 83, p14.
Temperature Effects: Methane Generation from Landfill Samples, Kenneth E. Hartz, Robert E. Klink and
Robert K. Ham EF Aug. 82, 692-638 Robert K. Ham, EE Aug. 82, p629-638.

Delenda Est Kilogram, Richard C. Gerke, El Apr. 81, p81-83.

Mexico

A Marine Perspective: Southern California (U.S.) and Baja California (Mexico) (M-29), Carlos Montero, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p538-547.

Tin and Microbes in the Chesapeake Bay, Joseph J. Cooney and Lawrence E. Hallas, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p864-872.

Microbial activity

Hydraulic Regime and Activated Sludge Performance, Robert M. Sykes, EE April 82, p286-296.

Microbial Activity in Activated Carbon Filters, John G. den Blanken, EE April 82, p405-425.
Organic Carbon Decay in Stream with Biofilm Kinetics, S. Srinanthakumar and A. Amirtharaiah. EE Feb. 83.

Srinanthakumar and A. Amirtharajah, EE Feb. 83, p102-119.

Microcomputer

Computer Based Testing of Dynamic Response, Thomas Glebas, Levon Minnetyan and Gordon B. Batson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p589-592.

Microcomputers

Adoption of a Mainframe Code to Desk-Top Com-puters, James R. Stafford and Farhad Tabaddor, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

Approximate Stiffness Method for Dynamic Analysis, Ali A. K. Haris and Shatha Naman, (Proceedings of the Eighth Conference on Electronic

James K. Nelson, Jr., ed., 1983), p233-241.
Finite Element Analysis Computation with Parallel VLSI, J. McGregor and M. Salama, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p540-553. Interactive Structural Software for Micros, J. M. Sims and H. R. Lundgren, (Proceedings of the Eighth

and H. R. Lundgren, (Proceedings of the Lighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p242-252. The Microcomputer and Pipeline Transients, E. Ben-jamin Wylie, HY Dec. 83, p1723-1739. Microcomputer Basics: A Tutorial on Microcomputer Hardware, Software and System Selection, M. Kevin Parfitt, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p769-779.

Microcomputer Spreadsheet Applications, Lansford C. Bell and Bob G. McCullouch, CO June 83, p214-223. A Microcomputer System for Automated Spectral Analyses of Structural Dynamics, Y. C. Pao, P. W. Analyses of Studential Dynamics, T. C. Fao, F. W. Whaley, L. C. Chang and G. M. Smith, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p711-724.
Microcomputers in Field Project Management, Robert

E. Dapogny and Charles W. Brodhead, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p253-266.

Micro-Computers in the Consulting Office, Roger F. Weiss, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p15-27.

Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983, 784pp. Selection of Computers for Education, Edmond T.

Miller, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p223-232.

Mine drainage Bench Scale Treatability Study of Acid Mine Drainage, Paul F. Meyerhofer and Bryant L. Bench, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p471-478.
Inactive Mining Impact on North Clear Creek, Robert
L. Carley, Christopher M. Crandell and John T.
Windell, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p652-659

Passive Mine Drainage Treatment: Selected Case Studies, J. David Holm, Michael B. Bischop and Kaman Tempo, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p607-617.

Passive Treatment of Sulfide Stockpile Runoff, Kim Lapakko and Paul Eger, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p643-651.

Post Surface Mining Drainage Basin Water Quality: Relationship to Mining and Reclamation Practice, Areal Disturbance, and Time, Paul S. Dickens, Roger A. Minear and Raymond R. Rose, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p625-634.

Mine subsidence Thousands of Tons of Grout Pumped to Stop Mine Subsidence, CE Nov. 83, p18.

Mine wastes

Hydrogeologic Models for Siting of Waste Facilities, John F. Clerici and J. Edmund Baker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983).

Use of Fjords for Disposal of Mine Tailing, Lee Harding, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p32-51.

Mines, excavations Creep Closure of an Opening in a Deep Potash Mine, Stephen T. Montgomery, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1024-1027.

Minicomputers
Flood Routing on a Small Computer, Richard J.
Heggen, CE Apr. 83, p63-66.
Hinear and Dynamic Pro-

Reservoir Operation by Linear and Dynamic Programming, Miguel A. Marino and Behzad Mohammadi, WR Oct. 83, p303-319.

Minimum weight design Minimum Weight Plastic Design of Continuous Beams, Yuhshi Fukumoto and Mitsuru Ito, ST July 81, p1263-1277.

Optimal Strength and Stiffness Design of Beams, S. Kanagasundaram and Bhushan L. Karihaloo, ST

Jan. 83, p221-237.

Optimum Design of Prestressed Concrete Tension Members, Antoine E. Naaman, ST Aug. 82, p1722-

Optimum Design of Welded Steel Columns, Metwally

Abo-Hamd, ST Nov. 83, p2503-2510. Shape Optimization of a Solid of Revolution, Young W.

Shape Commization of a Solid of Revolution, Young W. Chun and Edward J. Haug, EM Feb. 83, p30-46. Shear Building Optimization with Dynamic Constraints, Kuan-Chen Fu and Jamal M. Abu-Eid, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p764-768.

Reuse of Municipal Effluent in Mineral Flotation, Paul H. King, Alan M. W. Chu, Eric C. L. Chu and Gary L. Amy, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p464-470.

Sensitivity of Very Hard Pliocene Marl, Panaghiotis C. Kotzias and Aris C. Stamatopoulos, GT Dec. 83, p1526-1533.

Minority groups
Benefits and Costs of EEO Rules in Construction, Enno Koehn and Michael W. Jones, CO Dec. 83, p435-446. High Drop Rate for Minority Engineering Freshmen,

ČE Jan. 83, p12.

Jump Graduates Construction Inspectors, CE Jan. 83, Minority Firm Gains Major Design Work on LA Subway, CE Sept. 83, p20.

Minority Students Look at Engineering, CE April 83,

Concrete Structures: Penetration Depth Estimation, Achintya Haldar, Mehdi Hatami and Frank J. Miller, ST Jan. 83, p245-250.

Tornado-Borne Missile Speed Probabilities, Emil Simiu and Martin R. Cordes, ST Jan. 83, p154-168.

Mississippi River
Atchafalayai Management: Opportunities and Problems, Charles Fryling Jr., (Coastal Zone '83, Orville

T. Magoon, et al, eds., 1933) p2269-2278.

Baton Rouge and New Orleans Deep Water Draft to Gulf of Mexico, A. Alannoura and E. P. Russo, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), 1032-1040.
Priority Pollutants in the Mississippi River Near St.
Louis, David A. Blasiar, Bernard A. Rains and David
R. Mahaffay, (Frontiers in Hydraulic Engineering,
Hung Tao Shen, ed., 1983), p589.

Reevaluating Six Mississippi River Headwaters Lakes, Carl W. Stephan, (Accomplishments and Impacts of

Reservoirs, Gordon Green, et al, eds., 1983), p191-202. River Channel Changes: The Lower Mississippi River Below Natchez, Mississippi, Chester C. Watson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p214-226

Sediment Transport in Pool 19, Mississippi River, J. Rodger Adams and Nani G. Bhowmik, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p601.

Missouri River

Regulation of Missouri River Main Stem Reservoirs, Duane J. Sveum and George A. Patenode, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p94-108.

Mixing Confined Radial Buoyant Jet, David J. Fry and E. Eric

Adams, HY Sept. 83, p1185-1202. Growth of a Grid-Generated Turbulent Mixed Layer, Growth of a Grid-Generated Influence in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), pl.177-1179. Is Velocity Gradient a Valid Turbulent Flocculation Parameter? John L. Cleasby and Simon W. Freese, Charles of Conference on Environmental Engineering

(National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p811-852.

Jet Injections for Optimum Mixing in Pipe Flow, Stephen D. Fitzgerald and Edward R. Holley, HY

Oct. 81, p1179-1195.

Managing Water Quality by Mixing Water from Different Sources, Tung Liang and Soronadi Nnaji, WR Jan. 83, p48-57.

Mechanical Mixing and Surface Reaeration, Robert B.

Banks, Liqa Raschid-Sally and Chongrak Polprasert, EE Feb. 83, p232-241.

Mixing Characteristics of Negatively Buoyant Swirling Plume, Masamichi Inoue and Tsung-Chow Su, HY July 83, p1049-1056.

Mixing Effects on Coal Processing Waste Treatment, William R. Knocke and Letitia P. Jones, EE Dec. 83, p1295-1310.

Mixing in a Stratified Recirculating Flow, J. R. Koseff, H. Rhee and R. L. Street, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), pl-6.
Mixing in the Epilimnion of the Dead Sea, Atul
Salhotra, Donald R. F. Harleman and E. Eric
Adams, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p.28.
Transverse Mixing in Wide and Shallow River: Case Study, Alexander C. Demetracopoulos and Heinz G. Stefan, EE June 83, p685-699.

Vertical Mixing in Models of Stratified Flow, Steve C.

McCutcheon, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p15-20. Vertical Round Bouyant Jet in Shallow Water, Joseph H. W. Lee and Gerhard H. Jirka, HY Dec. 81,

p1651-1675

Wastewater Field Thickness and Initial Dilution, Robert C. Y. Koh, HY Sept. 83, p1232-1240.

Modal analysis

Analytical and Experimental Structural Response, Kenneth M. S. Mark and Frank H. Brittain, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p585-588.

Experimental Modal Analysis, Rudolf R. Boentgen and Stephen J. Clickner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p581-584. Method for Improving Incomplete Modal Coupling,

Robert Bajan, Anant R. Kukreti and Chuan C. Feng.

EM Aug. 83, p937-949.

Modal Methods in Continuous Bridge Deck Statics, Antonio G. Zechini, ST June 83, p1507-1517.

Tidal and Inertial Currents Around South Africa, E. H. Schumann and L. -A. Perrins, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2562-2580.

Modal superposition
Wave and Earthquake Response of Offshore Structures: Evaluation of Modal Solutions, Stavros A.
Anagnostopoulos, ST Oct. 82, p2175-2191.

Model studies

Evaluation of Selected Initial Dilution Models, Abu M. Z. Alam, Donald R. F. Harleman and Joseph M. Colonell, EE Feb. 82, p159-186.

Ground-Water Quality Modeling as a Management

Ground-Water Quanty Moodening as a Management Tool, Lyle R. Silka and Audrey G. Kretschek, (National Conference on Environmental Engineering, Allen Medine, et al., eds., 1983), p532-539. The Model Study of a Cylindrical Pier Under Irregular Wave Action, Yi-Qing Sun and Hai-Gui Kang, (Coastal Structures '83, J. R. Weggel, ed., 1983),

Physical Model Study of Weir Jetty Design, William C. Seabergh, (Coastal Structures '83, J. R. Weggel, ed., 1983), p876-893.

Model tests

Bearing Capacity of Strip Footing above Void, R. L. Baus and M. C. Wang, GT Jan. 83, pl-14.
Breakage of Concrete Armor Units, Dennis G. Markle

and D. D. Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2216-2238.
Centrifugal Model Tests of Vertical Anchor Plates, Edward A. Dickin and Chun F. Leung, GT Dec. 83,

p1503-1525.

Discreet Model Improvement by Eigenvector Updating, Michail Zak, EM Dec. 83, p1437-1444.

Hydraulic Model Testing of an Arctic Seawater Intake Structure, Jack C. Cox and Jerry L. Machemehl, (Coastal Structures '83, J. R. Weggel, ed., 1983),

p332-330. Improvements in Modelling Rubble-Mound Break-waters, G. W. Timco and E. P. D. Mansard, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2047-2061. Large Scale Model Tests on Placed Blocks Revetment, K. den Boer, C. J. Kenter and K. W. Pilarczyk,

(Coastal Structures '83, J. R. Weggel, ed., 1983), p307-319.

Model Tests of Piles in Calcarecus Sands, J. F. Nauroy and P. Le Tirant, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p356-369.

Model Tests on Littoral Sand Transport Rate, J. W. Kamphuis and O. F. S. J. Sayao, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1305-1325.

On the Interpretation of Rubble-Mound Breakwater Tests, G. W. Timco and E. P. D. Mansard, (Coastal Structures '83, J. R. Weggel, ed., 1983), p83-93.

Calibration and Verification of the Potomac Eutrophication Model, James J. Fitzpatrick, Stuart A. Freudberg, Kent Mountford, Michael Sullivan and Robert V. Thomann, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p196-203.

Calibration Verification and Application of a Two-Dimensional Flow Model, D. Michael Gee, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p363-368.

Evaluation of Stream Water-Quality Models, Steve C. McCutcheon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p190-

Landsat and Water Quality Model Verification, Donald Steven Graham and John M. Hill, TE Sept. 83, p640-650.

Evaluation of Stream Water-Quality Models, Steve C. McCutcheon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p190-

195.
Modeling of Ice Discharge in River Models, Darryl J. Calkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 285-290.
Model-Prototype Companison of Free Surface Vortices, George E. Hecker, HY Oct. 81, p1243-1259.
Nonprismatic Folded Plates: Tests, Hasmukh Vithalbhai Trivedi, Sachchidanand Sinha and Kaveti Seetharamulu, ST Oct. 83, p2463-2473.

Transferabilities of Urban Travel Demand Models, Fong-Lieh Ou and Jason C. Yu, TE July 83, p579-595.

Moment distribution

Creep in Continuous Beam Built Span-by-Span, Zdenek P. Bazant and Jame Shaujen Ong, ST July 83, p1648-1668.

Distribution of Deformations, Hasan A. Hejazi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p467-470.

Moment Distribution Factors for Pipe Encasements, George P. Martin, ST July 81, p1355-1359.

Moments in Edge Papels of Flat Plate Flows A S Usil

Moments in Edge Panels of Flat Plate Floors, A. S. Hall and B. V. Rangan, ST Nov. 83, p2638-2650.

Pure and Warping Torsion Analysis of Rigid Frames, Min-Tse Chen and Donald E. Jolissaint, Jr., ST Aug. 83, p1999-2003.

Flexural Strength of Square Spread Footing, Da Hua Jiang, ST Aug. 83, p1812-1819. Frequencies of Continuous Plates by Moment-Ratio Method, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p2905-2921.

Moments in Edge Panels of Flat Plate Floors, A. S. Hall and B. V. Rangan, ST Nov. 83, p2638-2650.

Momentum transfer

Flood Plain and Main Channel Flow Interaction, Donald W. Knight and John D. Demetriou, HY Aug. 83, p1073-1092.

1916 Wharf Tested and Used to Accommodate New Shiploading System, A. James Siebert, III, (Proceedings of Ports 83, Kong Wong, ed., 1983), p512-526.

Acoustic Emission for Dam Safety Monitoring, Daryl B. Simons, Rug-Ming Li, Yung Hai Chen, Thomas H. VonderHaar and Thomas A. Brubaker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p465-466.

Beach Nourishment Monitoring, Florida East Coast: Physical Engineering Aspects & Management Impli-cations, D. K. Stauble, M. Hansen, R. Hushla and L. Parson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2512-2526. Buried Waste Characterization Using Air Monitoring

Instrumentation, David Lipsky, (National Conference on Environmental Engineering, Allen Medine, et al,

eds., 1983), p861-866.
Floating Breakwater Prototype Test Program, Eric Nelson, Derald Christensen and A. David Schuldt, (Coastal Structures '83, J. R. Weggel, ed., 1983), p433-446

Ground Water Transport and Attenuation from a Waste Site, Alan C. Rodgers and Philip B. Bedient, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p548-555.
Instrument Monitoring to Observe Dam Performance,
R. J. Huang and M. F. Rogers, (Proceedings of the
Eighth Conference on Electronic Computation, James
K. Nelson, Ir. ad. 1923, 2564 K. Nelson, Jr., ed., 1983), p50-61. Instrumentation and Performance Observations Off-

shore, Elmo DiBiagio and Kaare Hoeg, (Geotechnical

anore, Earno Eribagio and Kaare riveg, (Geolechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p604-625.

A Microcomputer System for Automated Spectral Analyses of Structural Dynamics, Y. C. Pao, P. W. Whaley, L. C. Chang and G. M. Smith, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p711-724.

Monitoring of a Dolos Armor Cover: Cleveland. OH.

Monitoring of a Dolos Armor Cover; Cleveland, OH, Joan Pope and Denton R. Clark, Jr., (Coastal Structures '83, J. R. Weggel, ed., 1983), p193-207. Using a Photographic Survey Method, J. W. J. Kluger, (Proceedings of Coastal Engineering 82, Billy

L. Edge, ed., 1983), p2164-2170.

Monitoring the Environment—McClellan-Kerr Wa-

terway, Quinn G. Spann, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p20-30.

Survey Techniques/Procedures and Data Processing for Monitoring Nearshore Sediment Transport, J. Zacks. (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1600-1619.

Wave-Induced Ship Motions in Harbour Entrances—A Field Study, A. C. van Wyk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2681-2699.

Monorail railways EPCOT, CE June 83, p38-40.

Monte Carlo method

Approximate Error Bounds for Simulated Hydrographs, David C. Garen and Stephen J. Burges, HY

Nov. 81, p1519-1534.

Frequency of Northeaster Tides in Coastal New York,

Stergios A. Dendrou, Charles I. Moore and Vance A. Myers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p182-187.

Swell of Wyoming Montmorillonite and Sand Mixtures, Mehmit A. Sherif, Isao Ishibashi and B. W. Medhin, GT Jan. 82, p33-45.

Mooring Guyed Tower with Dynamic Mooring Properties, Denby Grey Morrison, ST Nov. 83, p2578-2590. Measurement Techniques for Moored Ship Dynamics, J. Moes and S. G. Holroyd, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p264-1261. Midstream Mooring Facilities, Gil Chatagnier, (Proceedings of Ports 83, Kong Wong, ed., 1983), -402.414.

Moored Ship Response in Irregular Waves, E. P. D. Mansard and B. D. Pratte, (Proceedings of Coastal

mainstat and B.D. Flate, (*Proceedings of Obstacle Engineering 82, Billy L. Edge, ed., 1983), p2621-2640. The Motions of a Moored Ship in a Harbor Basin, T. Sawaragi and M. Kubo, (*Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2743-2762.

Mechanics of Static Catenary with Current Loading, Chue Seck-Hong, WW Aug. 83, p340-349. On Reliability and Active Control of Tension Leg

Platforms, Zolan Prucz and Tsu T. Soong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p903-906.

Morphology

Morphology and Dynamics of Crescentic Bar Systems, V. Goldsmith, D. Bowman, K. Kiley, B. Burdick, Y. Mart and S. Sofer, (*Proceedings of Coastal Engineering 82, Vol. II*, Billy L. Edge, ed., 1983), p941-953.

Attitudes toward Productivity Pay Programs, Alexander Laufer and Brian E. Moore, CO March 83, p89-101. Better Trained Construction Supers Would Boost

Productivity, CE Apr. 83, p60-62.
Consulting Engineering is Motivating People, David

Novick, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p68-84.

Financial Incentives to Raise Productivity, Alexander

Laufer and John D. Borcherding, CO Dec. 81, p745-756.

Improving Productivity, J. R. King, Jr., ed., 1983, 101pp.

An Investigation of the Motivation of Project Managers and Department Heads in Consulting Engineering Firms, Brian J. Lewis, (Improving Productivity, J. R. King Jr., ed., 1983), p28-40.

Managing Productivity during an Attrition Program,

Bill Macaitis, (Improving Productivity, J. R. King Jr., ed., 1983), p79-88.

Merit Pay in an Engineering Organization, Paul J. Yaroschak, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p16-22.

Motivating/Rewarding in a Consulting Firm, Dennis R. Martenson, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p28-39.

Motivation Myths, Realities and Case Histories, Mel-

ville Hensey, (Improving Productivity, J. R. King Jr., ed., 1983), p50-66.

Personnel: Recruiting, Motivating, Rewarding, 1983,

Productivity in Civil Engineering and Construction, CE Feb. 83, p60-63.
Research Needs in Construction Worker Performance.

William F. Maloney and James M. McFillen, CO June 83, p245-254.

Mountain streams

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Dispersion in Mountainous Natural Stream, Hasa

Bajraktarevic-Dobran, EE June 82, p502-514. Rapid Sand Filtration of Giardia Cysts, Mohammed Al-Ani and David W. Hendricks, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p411-418.

Point Rainfall Estimation for a Mountainous Region, Yeou-Koung Tung, HY Oct. 83, p1386-1393.

Movable bed models Movable-Bed Modeling Law for Coastal Dune Erosion, Steven A. Hughes, WW May 83, p164-179. Movable-Bed Tidal Inlet Model, Subhash C. Jain, WW Aug. 82, p326-342.

Muding Mud Discharges: Minimizing Environmental Mismatches, John H. Trefry, Robert P. Trocine and Kathleen C. Yhip, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1228-1237.

Mudslide Effects on Offshore Pipelines, Richard C. Swanson and Warren T. Jones, TE Nov. 82, p585-

On Frontier between Rheology and Mudflow Mechanics, Cheng-lung Chen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p113-118.
Two-Dimensional Model of Mud Transport, Peter Cole and Gordon V. Miles, HY Jan. 83, p1-12.

Multiple purpose project Columbia Basin Reservoirs Accomplishments, Gordon G. Green, Douglas D. Speers and Thomas L. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p56-75.

Multiple purpose projects Accomplishments and Impacts of Reservoirs, Gordon G. Green, ed. and Earl E. Eiker, ed., 1983, 235pp.
Fifty Years of Operation of the TVA Reservoir, Bevan
W. Brown and Robert A. Shelton, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p138-151.

Monitoring the Environment-McClellan-Kerr Waterway, Quinn G. Spann, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., p20-30.

Multiobjective Approaches to River Basin Planning, Mark Gershon and Lucien Duckstein, WR Jan. 83, p13-28.

Regulation of Missouri River Main Stem Reservoirs, Duane J. Sveum and George A. Patenode, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p94-108.

Multiple use Multiple-Use Conflicts in a Growing Economy, Andrew A. Dzurik, UP Sept. 83, p79-93.

Multi-port diffuser Plume Dilution for Diffusers with Multiport Risers, Morton S. Isaacson, Robert C. Y. Koh and Norman H. Brooks, HY Feb. 83, p199-220. Salinity Intrusion into Multi-Port Sea Outfalls, John A.

Charlton, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2376-2385. Wastewater Field Thickness and Initial Dilution, Robert C. Y. Koh, HY Sept. 83, p1232-1240.

Municipal engineering Environmental Assessment of Campeau Shopping Center, Fred A. Curtis, UP Sept. 83, p63-78

Optimization of Refuse Collection Systems, Anand V. Chiplunkar, S. L. Mehndiratta and P. Khanna, EE Dec. 81, p1203-1210.

Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-

Vital Life Supports for N.Y.C. through the 20th Century, Martin Lang, UP May 83, p21-26.

Municipal wastes

Anaerobic Digestion of Municipal Solid Waste, Mi-chael K. Stenstrom, Adam S. Ng, Prasanta K. Bhunia and Seth D. Abramson, EE Oct. 83, p1148-1158. Design of Natural Attenuation Landfills, Amalendu Bagchi, EE Aug. 83, p800-811.

Ground-Water Transport from Wastewater Infiltration, Philip B. Bedient, Nina K. Springer, Ernesto Baca, Tracy C. Bouvette, S. R. Hutchins and Mason B. Tomson, EE Apr. 83, p485-501.

Instabilities in Air Classification of Fuels, Jeffrey B.

Taub and J. Jeffrey Peiree, EY June 83, p74-87. A New Approach for Siting Waste Facilities, D. L. Caputo, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

Predicting Air Classifier Performance, J. Jeffrey Peirce, P. Aarne Vesilind and Marilyn McNabb, EY March

Pulsed-Flow Air Classification for Waste-to-Energy, Richard Ian Stessel and J. Jeffrey Peiree, EY June 83, p60-73.

Municipal water

Boston Tunes Up Water System, CE June 83, p48-50. Demand Management Using Disaggregated Projections, Allison Harper, (National Conference on Envi-

uons, Alison Harper, (National Conjerence on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), p280-286. Graphic Input Improves Hydraulic Network Analysis, William S. Alper, T. David Pay and Marshall H. Smith, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

p46-49

Nails

Wood Floors with Nonlinear Nail Stiffness, Dan L. Wheat, M. Daniel Vanderbilt and James R. Goodman, ST May 83, p1290-1302.

The Effect of Correlation on the Prediction of Extreme Values, Arvid Naess, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p545-548.

Natural frequency

Cluster Frequencies of Continuous Uniform Plates, Bosheng Qin and Chuan C. Feng, ST Dec. 83,

Cracking and Shear Effects on Structural Walls, Dario Aristizabal-Ochoa, ST May 83, p1267-1277.
Damping Increase in Building with Tuned-Mass Damp-

er, Kenny C. S. Kwok, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p323-326

Exact Buckling and Frequency Calculations Surveyed, Frederic W. Williams and William H. Wittrick, ST

Jan. 83, p169-187.

Free Vibration of Parabolic Cables, Anestis S. Veletsos and Georges R. Darbre, ST Feb. 83, p503-519. Frequencies of Continuous Plates by Moment-Ratio Method, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p2905-2921.

Nonlinear Free Vibrations of Suspension Bridges: Theory, Ahmed M. Abdel-Ghaffar and Lawrence I.

Rubin, EM Feb. 83, p313-329. Nonlinear Free Vibrations of Suspension Bridges: Application, Ahmed M. Abdel-Ghaffar and Law-rence I. Rubin, EM Feb. 83, p330-345.

Optimal Grillage Layout for Given Natural Frequency, Niels Olhoff and George I. N. Rozvany, EM Oct. 82,

Parametric Instability of Curved Girders, Syed Amjad

Ali, ST Apr. 83, p829-842.
Seismic Design Charts for Coupled Shear Walls, Amiya
K. Basu, ST Feb. 83, p335-352.
Study on Vibration of Framed Machine Foundation, Zhang Daming, Ma Zesheng, Lin Weisong, Wu Zhangzhu and Wei Yuan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p519-522.

Technique for Estimating Natural Frequencies, Robert

Schmidt, EM Apr. 83, p654-657.

Natural resources

Conserving the Coastal Resources of East Africa, Daniel P. Finn, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1823-1839.

Developing a Coastal Management Constituency, Sandra Barrett, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), p2163-2172. Integration of Coastal Zone Management Concerns at the Local Government Level in Maryland, Earl H. Bradley, Jr., (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p1340-1351.

Multiple Beach Use, Does It Work? A Case Study,
Stephen V. Shabica and Michael Cousens, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p2186-2200.

Offshore Master Plans Synergistic Opportunities or Business as Usual, Edward J. Linky, Esq., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1743-1752

Protection of OCS Cultural and Biological Resources Mary Elaine Warhurst, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p2108-2115.
The Question of Mitigation, Ronald D. Gatton, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p1105-1119. Rigs to Reefs, Dana Larson, (Coastal Zone '83, Orville

. Magoon, et al, eds., 1983), p2845. San Diego Bay Area Fisheries Management, Michael V. Needham. (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p496-515.

Session: Development of Federal Policy on Coastal Barriers Case Study: The Development of a Consistent Federal Policy on Coastal Barriers, Ric Davidge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p480-481.

State Response to the Coastal Zone Management Act of 1972, Philip Berke and W. G. Roeseler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p206-225.

Navier-Stokes equations

Finite Analytic Numerical Solution of Two-Dimensional Suddenly Expanded Channel Flow, Ching-Jen Chen and Kuo-San Ho, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1138-1141.

Two-Equation Turbulence Model for Flow in Trenches Ben J. Alfrink and Leo C. van Rijn, HY July 83,

p941-958.

Wall Stress Distribution Due to Jet Impingement, Mohan D. Deshpande and Ramesh N. Vaishnav, EM Apr. 83, p479-493.

Waterwaves Calculation by Navier-Stokes Equations, O. Daubert, A. Haugel and J. Cahouet, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p832-845.

Navigation

Design of Inland Navigation Fairways, Henk G. Blaauw and Henk J. Verhey, WW Feb. 83, p18-30. Design of Navigational Structures for Ice Forces, Mauri Maattanen, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983),

p172-185.

Great Lakes Ice Dynamics Simulation, Akio Wake and

Ralph R. Rumer, Jr., WW Feb. 83, p86-102.
Hydrosedimentological Studies in Bahia Blanca, R. V.
Petroni, D. D. Serman and R. S. Escalante, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1231-1247.

Inertial Survey Systems, Edward F. Roof, SU Aug. 83,

p116-135.

Navigation and Shore Erosion in Coastal Waterways, Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p207-211.

Navstar Global Positioning System, Henry R. Heuerman and Walter J. Senus, SU Aug. 83, p73-80. Oil Versus Navigation-Resolving the Conflict, Jan E. Terveen, Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p799-816.

Prototype Experience and Model Studies of Navigation Frototype Experience and model Studies of Navigation Effects on Inland Waterways, Noel R. Oswalt and Claude N. Strauser, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p201-206. Shoaling Processes in Navigable Waters, Task Com-

mittee on Causes and Effects of Shoaling of Navigable Waters of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, (James Neiheisel, chmn.), WW May 83, p199-221.

Float-In Powerhouses, George A. Makela, EY June 83, p43-59.

Nearshore circulation

Circulation Induced by Tidal Jets, Prakash Joshi and E. Bruce Taylor, WW Nov. 83, p445-464.

Negligence
The CM's Liability to Other Parties—Negligence,
Robert J. Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p30-37.
Government Immunity, Negligent Construction, CE

July 83, p26. Implied Warranty, Used Home, CE Apr. 83, p22.

Design of Dunes as Coastal Protection in the Delta Area of the Netherlands, Ir. C. Visser, (Coastal Structures '83, J. R. Weggel, ed., 1983), p792-805. Holland's Fight Against the Sea, Alexander Danilevsky, CE April 83, p50-53.

Probabilistic Design of Dunes, Jan van de Graaff, (Coastal Structures '83, J. R. Weggel, ed., 1983), p820-831.

Network analysis
Diffusion of Network Planning in Construction, David

Arditi, CO March 83, p1-12.

Node Flow Analysis of Water Distribution Systems, Pramod R. Bhave, TE July 81, p457-467.

Scheduling: Effective Methods and Techniques, Elise Hosten McGough, CO March 82, p75-84.

Optimization of Gravity-Fed Waste Distribution Systems: Theory, Pramod R. Bhave, EE Feb. 83, p189-205.

Network geometry

Optimal Layout for Branching Distribution Networks, Pramod R. Bhave and Chan F. Lam. TE July 83.

Networks

Optimization of Gravity-Fed Water Distribution Sys tems: Application, Pramod R. Bhave, EE Apr. 83, p383-395.

levada

Water for Las Vegas Metropolitan Area, Donald A. Haselhoff, EE June 83, p700-712.

Balancing Development and Environmental Concerns in the Coastal Zone of New Jersey, Gary L. Bickle, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1120-1135.

Tidelands Ownership and Management: The Public Interest and Private Property Rights in New Jersey, David N. Kinsey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1902-1922.

New York City

Cracks in Nodes Delay New York City Convention Center at Least Six Months, CE Sept. 83, p10. More Delays for New York Super Highway, CE Nov.

New York's MTA Raises \$8.5 Billion for Mass Transit, Allen Morrison, CE July 83, p42-45. NYC Resumes Water Tunnel Construction, CE April

Structural Trends, Irwin G. Cantor, CE June 83, p26. Vital Life Supports for N.Y.C. through the 20th

Century, Martin Lang, UP May 83, p21-26.

Nile River Valley Drainage by an Intercepting Pump Station, Mostafa M. Soliman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p337-343.

Increasing Irrigation Efficiencies and Their Effect on Nitrates in the Environment, William F. Ritter and Katherine A. Manger, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p417-426.

Drainage, John Borrelli, ed., 1983), p417-426.

Lon Exchange and Membrane Processes for Nitrate
Removal from Water, Dennis Clifford and ChiehChien Lin, (National Conference on Environmental
Engineering, Allen Medine, et al, eds., 1983), p14-23.
Planning Model for Land Application of Sewage
Sludge, Douglas A. Haith, EE Feb. 83, p66-81.
Reservoir Modeling to Develop AWT Nitrate Standard,
John P. Hartigan, EE Dec. 83, p1243-1258.

Disinfection with Chlorine and Chlorine Dioxide, E. Marco Aieta and Paul V. Roberts, EE Aug. 83, p783-799.

Oxidative and Non Oxidative Ammonia Modeling, Michael D. Curtis, (National Conference on Environmental Engineering, Allen Medine, et al. eds.. 1983), p493-499.

Simulation of Single-Sludge Nitrogen Removal, Bill Batchelor, EE Feb. 83, pl-16.

Wastewater Treatment: Sensitivity Analysis, Makram T. Suidan, F. Michael Saunders, C. Stuckey Godfrey and Harry T. Stewart, EE Feb. 83, p120-138.

Factors Affecting Nitrogen Removal in Water Hya-cinth Treatment Systems, Scott A. Weber and George Tchobanoglous, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p73-80.

pi3-50.

Nitrogen Removal in Single-Stage Activated Sludge,
Hraj A. Khararjian, Iqbal Ali and M. K. Abdulappa,
(National Conference on Environmental Engineering,
Allen Medine, et al, eds., 1983, p.230-237.

Nitrogen Removal in the Overland Flow Process

Design Considerations A. P. Krayis P. G. Smith

—Design Considerations, A. P. Kruzic, R. G. Smith and E. D. Schroeder, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p50-57.
Nutrient Loading Estimates for Lakes, Walter Rast and

G. Fred Lee, EE Apr. 83, p502-517.

Planning Model for Land Application of Sewage Sludge, Douglas A. Haith, EE Feb. 83, p66-81. Reservoir Modeling to Develop AWT Nitrate Standard, John P. Hartigan, EE Dec. 83, p1243-1258.

Assessment of NO_x Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Engines on Orisione exploratory Drining vessets and Rigs, Rob Klausmeier, Jim Rouge, Pamela Beckley and James Norton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1208-1227. Containment of a Natural Hydrocarbon Seep in Santa Barbara Channel, J. B. Hundley, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1261.

1983 National Conference on Environmental Engi-

neering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.
Interactive Graphics Use in Traffic Noise Modeling, Louis F. Cohn, William Bowlby and Leonard W. Casson, TE March 83, p179-195.

Making Aircraft Noise and Land Use Compatible, Richard J. Wiederhorn, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p805-810.

The Noise and Vibration Corridor Concept Used in Siting Rail Rapid Transit Systems in Urban Areas, Carl E. Hanson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p904-909.

Prediction of Highway Construction Noise Levels,

William Bowlby and Louis F. Cohn, CO June 83,

Specifying against Construction Noise: Westway, NYC, Grant S. Anderson and Van M. Lee, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p736-743.

Noise measurement
Interactive Graphics Use in Traffic Noise Modeling,
Louis F. Cohn, William Bowlby and Leonard W.
Casson, TE March 83, p179-195.
Prediction of Highway Construction Noise Levels,
William Bowlby and Louis F. Cohn, CO June 83,

p163-180.

Engineer's Notebook: Determining Sample Size of Pavement Deflections by Nomograph, Sudipta Ban-dyopadhyay, CE Apr. 83, p57-59. Sample Size of Pavement Deflections by Nomograph,

Sudipta S. Bandyopadhyay, TE July 83, p599-604.

Noncohesive sand

Incipient Motion of Sand Particles on Side Slopes, Syunsuke Ikeda, HY Jan. 82, p95-114. Underpinning with Chemical Grout, W. C. Pete Parish,

Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Nondestructive tests

Drilled-Shaft Integrity by Wave Propagation Method. Thomas M. Hearne, Jr., Kenneth H. Stokoe, II and Lyndon C. Reese, GT Oct. 81, p1327-1344. Extrapolation Techniques for Buckling Loads, Mario M. Attard, ST Apr. 83, p926-935.

Loading Mode Effects on Pavement Deflections, Mario

S. Hoffman, TE Sept. 83, p651-668.
Nondestructive Testing Cuts Runway Rehab Costs, James J. Pantina, CE Nov. 83, p43-45.
Structural Evaluation of Marine Structures, Jerry J.

Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677.

Nonlinear analysis
2-D Finite Element Analysis of Massive RC Structures, Niels Saabye Ottosen, ST Aug. 82, p1874-1893. Crash Resistance of Curved Thin-Walled Beams, Jacques Crouzet-Pascal, Robert Winter and Robert Gentzlinger, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p656-659.

Inelastic Behavior of Continuous Prestressed Concrete

Beams, M. Z. Cohn and Y. Frostig, ST Oct. 83, p2292-2309.

Iterative Analysis of Nonlinear Glass Plates, C. V. Girija Vallabhan, ST Feb. 83, p489-502

Lateral Load Effect on Strength of Steel Arch Bridge Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449. Nonlinear Analysis of Liquid-Filled Tank, Wing Kam Liu and Dennis Lam, (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1079-1082. Nonlinear Analysis of Prestressed Concrete Slabs, Johannes Van Greunen and Alexander C. Scordelis,

ST July 83, p1742-1760. Non-Linear Analysis of Thin-Walled Beams, H. P. Lee, P. J. Harris and C. T. Thomas Hsu, (Proceedings of

the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p404-415. Sanwich-Panel Assemblies: Analytical Model, S. Rizzo

and Paul Fazio, ST Nov. 83, p2715-2732.
Study of Numerical Efficiency on Nonlinear Analysis of Thin Shells, K. Sawamiphakdi and T. Y. Chang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p668-678.

Wood Floors with Nonlinear Nail Stiffness, Dan L. Wheat, M. Daniel Vanderbilt and James R. Goodman, ST May 83, p1290-1302.

Nonlinear differential equations Consolidation Curves for Clays, Eulalio Juarez-Badillo and Benito Chen, GT Oct. 83, p1303-1312.

Nonlinear programming

Adsorption Isotherm Parameter Estimation, Michael W. Sweeney, William A. Melville, Boris Trgovcich and C. P. Leslie Grady, Jr., EE Oct. 82, p913-922. Shape Optimization of Skeletal Structures: A Review,

B. H. V. Topping, ST Aug. 83, p1933-1951.

Nonlinear systems

Critical Response Properties for Simple Systems, Bruce D. Westermo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p209-211. An Energy Method for Nonlinear Struct. Analysis,

Rudolph Szilard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p390-403.

Inelastic Dynamic Response of Cable Networks, Manolis Papadrakakis, ST May 83, p1139-1154.

point pollution

Calibration of NPS Model Loading Factors, John P. Hartigan, Thomas F. Quasebarth and Elizabeth Southerland, EE Dec. 83, p1259-1272.

Hydrologic Delineation of Nonpoint Source Contributing Areas, William J. Gburek, EE Oct. 83,

p1035-1048.

The Impact of Irrigation on Pollutant Loads, J. R. DelVecchio, W. G. Knisel and V. A. Ferreira, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p113-123.

Managing Potomac Water Quality: Evolving Apanaging Follomat Nation Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N. Magill, EE June 82, p562-577.

Post-Audit of Lake Model Used for NPS Management, John P. Hartigan, John A. Friedman and Elizabeth Southerland, EE Dec. 83, p1354-1370.
Stormwater Quality Characteristics in Detention Basins,

Raymond A. Ferrara and Patrick Witkowski, EE Apr. 83, p428-447.

Non-sway column

End Restraint Effect on Steel Column Strength, Zia Razzaq, ST Feb. 83, p314-334.

Non-sway frames

Geometric Nonlinearities in Nonsway Frames, Shu-Ming A. Lai, James G. MacGregor and Jostein Hellesland, ST Dec. 83, p2770-2785.

Normal stress

Non-Newtonian Flow Using Penalty Finite Elements, B. Bernstein, D. S. Malkus and E. T. Olsen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p826-828.

Normally consolidated soils

Stability of Axisymmetric Excavations in Clay, Arul M. Britto and Osamu Kusakabe, GT May 83, p666-681.

Nuclear electric power generation Heated Discharge in an Estuary: Case Study, James B. Nystrom, George E. Hecker and Han C. Moy, HY Nov. 81, p1371-1406.

Nuclear energy AAES Reaffirms Support of Reagan's Nuclear Energy Program, CE Feb. 83, p26.

Nuclear power

High Court Rulings Affect Arguments on Nuclear

Power, CE June 83, p10. Independent Three-Dimensional Shake Table Excitation and Its Future in Nuclear Power Qualification Programs, John C. Stoessel, Paul Ibanez, R. Steve Keowen and Peter E. Rentz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p630-633.

Nuclear Waste Management, Task Committee on Nuclear Effects of the Committee on Air, Noise, and Radiation Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.), 1982, 52pp.

Nuclear power plant location
Nuclear Facilities Siting, Task Committee on Nuclear Effects of the Committee on Air Resources and Environmental Effects Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.),

1982, 62pp.
Tennessee Valley Extreme Wind Speed Climatology,
Donald W. Newton, M. Lawrence Nicodemus and Nathaniel B. Guttman, HY Aug. 83, p1093-1107.

Nuclear power plants 1973 NRC Design Spectrum, Bijan Mohraz and Fawzi E. Elghadamsi, EY March 83, p37-42. Cooling Water Facilities at a Nuclear Station, William

L. Hurst, Bomi M. Ghadiali and Joseph S. Kanovich, EY March 83, pl-6.

Heavy Rigging for Nuclear Projects, Clyde B. Tatum, CO March 83, p48-60. High Court Rulings Affect Arguments on Nuclear Power, CE June 83, p10.

Ice Pond Cooling System for Power Plants, Arthur C.
Miller, Jorge A. Pena, John Urbsanski and Sonja N.
Kerr, EY Sept. 83, p199-206. Innovations in Nuclear Concrete Construction, Clyde

B. Tatum, CO June 83, p131-145.

Localized Nonlinear Effects in Soil-Structure Interaction, Ambar N. Mukherjee, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 216-189. p186-188.

Pipe Whip Analysis Using a Rigid Plastic Pipe Model, M. B. Atalay, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al, eds., 1983), p718-721. Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear Structures and Materials, 1983, 56pp. Senate Vote Almost Certainly Kills Clinch River, CE

Dec. 83, p10.

Thermal Impact Studies for French Coastal Nuclear Sites, Y. Coeffe, P. M. Clique and B. Manoha, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2342-2356.

Tornado-Borne Missile Speed Probabilities, Emil Simiu and Martin R. Cordes, ST Jan. 83, p154-168.

Nuclear reactor containment
Random Piping Responses to Condensation Oscillation
Loads, T. Y. Shih and P. C. Sun, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983), p205-208

Random Thermal Stresses by Finite Elements, M. P. Singh, T. Kuppusamy and R. A. Heller, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p652-655.

R/C Containment Safety under Hydrogen Detonation, Michael N. Fardis, Alex Nacar and Michael A. Delichatsios, ST Nov. 83, p2511-2527.

iuclear reactors

Clinch River Breeder Reactor Program-On Target or Not? Morgan I. Doyne and Krista Kotur, CE Aug. 83, p6. Clinch River Funding Challenged in House, CE June

83, p10.

R/C Containment Safety under Hydrogen Detonation, Michael N. Fardis, Alex Nacar and Michael A. Delichatsios, ST Nov. 83, p2511-2527.

N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures, American Society of Civil Engineers, 1983, 23pp.

R/C Containment Safety under Hydrogen Detonation,

Michael N. Fardis, Alex Nacar and Michael A. Delichatsios, ST Nov. 83, p2511-2527.

Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear Structures and Materials, 1983, 56pp.

Nuclear wastes disposal Borehole Sealing for Underground Waste Storage,

Roland Pusch, GT Jan. 83, p113-119.

Creep Interaction of Salt and a Concrete Ring Structure, Nicholas J. Antonas, William T. Li, Kenneth M. S. Mark and Ching-Liu Wu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p687-690.

Nuclear Wastes Stored Below Ground in Sweden, CE

Dec. 83, p14.

Reliability of Basements As Shelters, A. Longinow, N.
T. Thomopoulos and J. Mohammadi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p911-914.

ucleation

Frazil Ice, Steven F. Daly, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p218-223.

nerical analysis

An Energy Method for Nonlinear Struct. Analysis, Rudolph Szilard, (Proceedings of the Eighth Confer-ence on Electronic Computation, James K. Nelson, Jr., ed., 1983), p390-403.

Inelastic Lateral Torsional Buckling of Beams, Bruce A Hollinger and C. P. Mangelsdorf, ST Aug. 81,

p1551-1567.

Mindlin Plate Analysis by Segmentation Method, Tarun Kant and Ernest Hinton, EM Apr. 83, p537-556.

Nonlinear Torsional Dynamic Response of Footing, Robert Henke, F. E. Richart, Jr. and Richard D. Woods, GT Jan. 83, p72-88.

Numerical Analysis of Structural Tee X-Bracing, Albert D. M. Lewis and Khosrow Nematollaahi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p490-500.

Practical Reduction of Structural Eigenproblems, Mario Paz, ST Nov. 83, p2591-2599.

nerical calculations Numerical Calculation of Seiche Motions in Harbours of Arbitrary Shape, P. Gaillard, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p172-191. Numerical Computation for Flow Regulation of Water Power Stations, Chen Shou Yu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p597.
Unified Theory for Flood and Pollution Routing,
Antonis D. Koussis, HY Dec. 83, p1652-1664.

Numerical models

Application of a Numerical Model to Prediction of
Shoreline Changes, Matsuoka, Michio and Yasuond Ozawa, (Coastal Structures '83, J. R. Weggel, ed., 1983), p646-659.

Applications of a Numerical Shallow Water Waves Model, A. Haugel and P. H. Pechon, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p846-861.

Applications of a Shoreline Prediction Model, Nicholas . Kraus, (Coastal Structures '83, J. R. Weggel, ed., 1983), p632-645.

Approximate Numerical Model for Stratified Flow Angelos N. Findikakis and Robert L. Street, EM Aug. 83, p950-969.

Automated Digital Simulation of Tides & Long Waves

R. F. Henry, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p203-218.
Boundary Conditions in Limited Area Simulation of Tidal Rivers, John P. Glass, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p324-329.
Calculation of Intake Approach Flow Circulation with Two-Dimensional Finite Elements Model, Domi-

nique N. Brocard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p380-385. Coastal Ocean Second Order Turbulence Closure and

Estuarine Numerical Modeling, George L. Mellor, Lie-Yauw Oey, Richard I. Hires and Alan Blumberg, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p291.

Cooling Water Supply-Disposal in Coastal Aquifer, Masanobu R. Fujioka and Akshai K. Runchal, EY June 83, p88-102.

Depth-Integrated (k-c) Turbulence Modelling, Raymond S. Chapman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p293-294.
A Finite Element Method for the Shallow Water Equations, A. Hauguel, G. Labadie and B. Latteux,

(Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p617-634. Irregular Wave Refraction Due to Current, Tetsuo Sakai, Masahiko Koseki and Yuichi Iwagaki, HY

Sept. 83, p1203-1215.

Sept. 83, p1203-1213.
Modeling Longshore Currents for Field Situations,
Seetharama R. Vemulakonda, James R. Houston and
H. Lee Butler, (Proceedings of Coastal Engineering 82,
Vol. 11, Billy L. Edge, ed., 1983), p1659-1676.
Modeling the Annual Stratification Cycle in Lakes: The

1979-80 Lake Erie Field Program as an Example, John F. Paul, Juan C. Heinrich and Wilbert J. Lick, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p27.

Wulti-Dimensional Modeling of Sediment Transport, William H. McAnally, W. Anthony Thomas and Ranjan Ariathurai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p91-95. A Numerical Model of Wave/Breakwater Interactions,

D. Ian Austin and Roger S. Schlueter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2079-2096.

Numerical Model Study of Temperature Distributions in a Harbour, Roger A. Falconer, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p454-472.

Numerical Modeling of Scour Potential at the Breach of a Causeway, Yutaka Ochi, Choule J. Sonu and Robert E. Potter, (Coastal Structures '83, J. R. Weggel, ed., 1983), p660-672.

Numerical Modeling of Sedimentation Tanks, Emad Imam, John A. McCorquodale and J. K. Bewtra, HY Dec. 83, p1740-1754. A Numerical Water Level Model for Lake Okeechobee,

Richard A. Schmalz, Jr., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p586. Resonance in South African Harbours, W. A. M. Botes,

K. S. Russell and P. Huizinga, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p439-453.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Prasad, HY Dec. 82, p1480-1903.
Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.
Simulation of Flow in Rectangular Clarifiers, Emad Imam and John A. McCorquodale, EE June 83,

p713-730.

p713-730.

Tidal Computation on Taiwan Strait, Fuh Yin and Sen-Ho Chen, WW Nov. 82, p539-553.

Tridimensional Numerical Model for Tidal and Wind Generated Flow, M. C. Burg, A. Warluzel and Y. Coeffe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p635-651.

Nutrient loading

Nutrient Loading Estimates for Lakes, Walter Rast and

G. Fred Lee, EE Apr. 83, p502-517.

Performance of Some Empirical Phosphorus Models,
Dintie S. Mahamah and Surinder K. Bhagat, EE

Aug. 82, p722-729.

Sediment and Nutrient Loads Associated with a Tropical Storm, Loxahatchee River Estuary, South-eastern Florida, Benjamin F. McPherson and Wayne Sonntag, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2250.

Light-Productivity Model for Onondaga Lake, NY. Stephen D. Field and Steven W. Effler, EE Aug. 83. p830-844

Predicting Algal Stimulatory Properties of Wastewater, Neil M. Ram and Patricia E. Austin, EE Oct. 83. p1099-1110.

Obituaries

Elsie Eaves, "First Lady" of Civil Engineering Dies, CE June 83, p62.

George Winter, Structural Educator and Resarcher, Dead. CE Feb. 83, p76.

Texas Industrialist, George R. Brown, Dead, CE Apr. 83, p12-14.

William H. Wisely: 1906-1982, CE Feb. 83, p73-74.

Dynamic Sediment Properties, Mississippi Delta, Sibel Pamukcu, J. K. Poplin, J. N. Suhayda and M. T. Tumay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p111-132

Effects of CERC Research Pier on Nearshore Processes, H. C. Miller, W. A. Birkemeier and A. E. DeWall, (Coastal Structures 83, J. R. Weggel, ed.,

1983), p769-784. cean Wave-Induced Liquefaction Analysis, M. S. Ocean Nataraja and H. S. Gill, GT Apr. 83, p573-590. Physical Modeling of Sea-Seabed Interactions, Tokuo Yamamoto, Shigeo Takahashi and Bruce Schuck-

man, EM Feb. 83, p54-72.
Wave Reflection from Undulating Seabed Topography,
A. D. Heathershaw, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p543-554.

Ocean engineering
Application of Reliability Methods in Design and
Analysis of Offshore Platforms, Committee on
Reliability of Offshore Structures of the Committee on Structural Safety and Reliability of the Structural Division, ST Oct. 83, p2265-2291

Dynamic In-Situ Calibration of Hot Film, M. Satyana-Dynamic in-Stu Calloration of Flot Film, M. Satyana-rayana and K. Elango, WW Feb. 83, p133-137. Fixed and Floating Axisymmetric Structures in Waves, Michael de St. Q. Isaacson, WW May 82, p180-199.

In Situ Tests and their Application in Offshore Design, Jean-Louis Briand and Barry Meyer, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p244-266. Instrumentation and Performance Observations Off-

shore, Elmo DiBiagio and Kaare Hoeg, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p604-625.

The LPC Pressiopenetrometer, Francois J. Baquelin and Jean-Francois Jezequel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p203-219.

New Ocean Technologies in the Twenty-First Century Tracy Heenan Walklet, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p783-790.
Optimism Prevails at 1983 OTC, CE July 83, p63.
Pipeline Stability Under Finite-Amplitude Waves,
Min-Chih Huang and Robert T. Hudspeth, WW May 82, p125-145.

Risk Assessment for Offshore Structures: A Review Erik Vanmarcke and Demosthenes Angelides, ST

Feb. 83, p555-571.

Stresses Due to Wave-Induced Bottom Pressures, Leland M. Kraft, Jr. and Steven C. Helfrich, GT July 83, p986-994.

Wave Power Estimates Utilizing Ocean Wave Spectra, John M. Niedzwecki, EY Dec. 83, p222-235.

Ocean environments

Coastal Zone '83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp.
Effects of Dredging on Adjacent Waters, Charles Grimwood, EE Feb. 83, p47-65.
Risk, Information and the Development of Marine

Resources, Jon M. Conrad, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p179-193.

Ocean resources

Coastal Zone '83, Orville T. Magoon, ed. and Hugh Converse, ed., 1983, 2918pp.
New Ocean Technologies in the Twenty-First Century.

Tracy Heenan Walklet, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p783-790.

Regional and National Ocean Management Coordination, Kenneth J. Havran and Jeffrey D. Wiese, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p145-162.
Risk, Information and the Development of Marine

Resources, Jon M. Conrad, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p179-193.

Ocean thermal energy conversion

Confined Radial Buoyant Jet, David J. Fry and E. Eric Adams, HY Sept. 83, p1185-1202

Nearshore Bottom-Mounted OTEC Platforms and Pipes, Steve Bailey, Colin Moore and Luis Vega, (Coastal Structures '83, J. R Weggel, ed., 1983), p587-600.

Radial Source-Sink Flow in Stratified Ocean, Gerhard H. Jirka, R. Peter Johnson and Frank E. Sargent, HY

Dec. 81, p1631-1650.

Ocean waves

Analysis of Optimal Ocean Wave Energy Conversion, Michael E. McCormick, WW May 83, p180-198. Natural Wave Trains and Scattering Transform, Rodney J. Sobey and Errol J. Coleman, WW Aug. 82,

p272-290.

Ocean Wave-Induced Liquefaction Analysis, M. S. Nataraja and H. S. Gill, GT Apr. 83, p573-590. Stochastic Response of Prototype Offshore Structure, Michael G. Grecco and Robert T. Hudspeth, ST May 83, p1119-1338.

Wave-Induced Pressures on Buried Pipelines, Susan H. Davidson, William G. McDougal and Charles K. Sollitt, (Pipelines in Adverse Environments II, Mark

Pickell, ed., 1983), p129-143.

Oceanic processes
Radial Source-Sink Flow in Stratified Ocean, Gerhard H. Jirka, R. Peter Johnson and Frank E. Sargent, HY Dec. 81, p1631-1650.

Oceanographic surveys
Research Needs in Marine Surveying, Harold D.

Palmer, SU April 82, p10-17.
South African Wave Climate Study, J. Rossouw, L.
W. Coetzee and C. J. Visser, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p87-107.

Model of Vacuum Deodorization of Sludge Odorants, Jerry Y. C. Huang, George E. Wilson and Meng-Dawn Cheng, EE Aug. 83, p961-965.

Office automation
Word Processing, Tips on How to Choose a System,
Nhora Cortes-Comerer, CE Feb. 83, p50-55.

Offshore drilling Artificial Islands, Frank P. Robertson, CE Aug. 83,

Assessment of NO₂ Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, Rob Klausmeier, Jim Rouge, Pamela Beekley

yand James Norton, (Coastal Zone '33, Orville T. Magoon, et al, eds., 1983), p1208-1227.

Biological Sensitivity, Oil Residence and Human Use Indices for Coastal Environments Threatened by Oil Spills, Gordon A. Robilliard, Edward H. Owens, John R. Harper and Ted P. Winfield, (Coastal Zone

'83, Orville T. Magoon, et al., eds., 1983), p1374-1390. Buckling of Columns with Nonmovable Boundaries, Michael M. Bernitsas and Theodore Kokkinis, ST

Sept. 83, p2113-2128.

California's Oil Spill Response Capability: Is It

Califorma's Oil Spill Response Capability: Is It Adequate? Brian E. Baird, (Coastal Zone '83, Ovrille T. Magoon, et al, eds., 1983), p1402-1410. Cone Penetration Testing in the Beaufort Sea, Michael G. Jefferies and Erik Funegard, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p220-243. Conflict Resolution: Use of the Government-Industry

Task Force, Mari Gottdiener, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2092-2095. Contingency Planning Guidelines for Offshore Oil and

Gas Development, Ann Hayward Rooney-Char, Jerry A. Galt, John T. E. Gilbert and John H. Robinson, (Caastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1352-1373.

Deep Water Soil Investigation: Planning to Results, Tor-Inge Tjelta, Peter H. Watt and Derek W. F. Senner, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983),

p166-180.

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Don't Get Crude on Georges Bank, Barry R. Clark, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

(Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p841-849.
Drilling Mud Discharges: Minimizing Environmental Mismatches, John H. Trefry, Robert P. Trocine and Kathleen C. Yhip, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1228-1237.
Energy and Native Concerns in the U.S. Arctic, Joanne Barnes Jackson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2145-2162.
Hydrocarbon Facility Siting in Northern Canada, Heather M. Muser, (Coastal Zone '83, Orville T.

Heather M. Myers, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1781-1789. Modified Reel Methods for Subsea Arctic Pipelines, Peter P. Bryce and Jeffrey M. Key, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p486-499.

NOAA's Role in Scientific Planning for Spill Response, John H. Robinson and Ann Hayward Rooney-Char, (Coastal Zone '23, Orville T. Magoon, et al, eds., 1983), p1391-1401. OCS Development in the Pacific Region: Status and

Issues, Ronald Ritschard and Sharon Maves, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p2116-2136.

OCS, Frontier Basins, California, D. L. Zieglar, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p829-840.

OCS Planning: The North Carolina Model, Angela S. Waldorf and Eric A. Vernon, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2137-2144. Offshore Oil Operations and Environmental Values, Ursula Guerrieri, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p1238-1260.
Oil and Gas Development in Coastal Upland Areas:
Understanding the Issues, and Recommendations for
Land Use Planning, Melvin R. Willis, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p1753-1762.
Oil Rigs Designed to Combat Arctic Ice, Ben C.
Gerwick, Jr., CE Dec. 83, p38-41.

Oil Versus Navigation-Resolving the Conflict, Jan E. Terveen, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p799-816. Regulation and Offshore Oil and Gas Facilities, Arrie Bachrach, David Morycz, Suzanne Phinney and Stephen Kahane, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p36-39.

A Three-Dimensional Model of Bering and Chukchi Sea, Shiao-Kung Liu and Jan J. Leendertse, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p598-616.

Offshore pipeline
Collapse of Thick Wall Pipe in Ultra Deep Water,
Edward A. Verner, Carl G. Langner and Michael D. Reifel, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p159-187.

Hazards to Marine Pipelines, J. T. Powers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p144-158.

Marine Pipeline Protection with Flexible Mattress, Alan

D. Crowhurst, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), D2403-2417.
Nonlinear Transient Response of Deep—Ocean Pipeline, M. Zimmerman, J. Leonard, J. Tedesco, R. Hudspeth and L. Borgman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p722-736.

Offshore Geotechnics: Trans-Panama Pipeline System, H. R. Al-Alusi and G. R. Thiers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p650-667.
Optimal Cost Control Strategies for Attached Algae,
Raymond P. Canale, Martin T. Auer, Yuzuru
Matsuoka, Thomas M. Heidtke and Steven J. Wright, EE Dec. 83, p1225-1242.

Offshore pipelines
Bending Moments on Long Partially Submerged
Cylinders in Random Seas, I. G. Bryden and C. A.
Greated, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p393-403.

Design of Offshore Pipelines for Ice Environments, W. J. Timmermans, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p69-98.

Dynamic Sediment Properties, Mississippi Delta, Sibel Pamukcu, J. K. Poplin, J. N. Suhayda and M. T. Tumay, Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p111-132.

Marine Pipeline and Ocean Outfall Protection with Flexible Matresses, Alan D. Crowhurst, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p2448-2458.

Marine Pipeline Protection with Flexible Mattress, Alan D. Crowhurst, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p370-378.

Modified Reel Methods for Subsea Arctic Pipelines, Peter P. Bryce and Jeffrey M. Key, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Mudslide Effects on Offshore Pipelines, Richard C. Swanson and Warren T. Jones, TE Nov. 82, p585-

Specifying Offshore Pipe Installation: A Case Study, Leonard C. Dawson and Bruce A. Bennett, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p620-638.

Vertical Vs. Horizontal Cylinders in Waves, John H. Nath, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p704-721. Wave Forces on a Submerged Cylinder Near a Plane

Boundary, N. Jothi Shankar, H. Raman and V. Sundar, (Coastal Structures '83, J. R. Weggel, ed., 1983), p492-504.

Offshore platforms

Application of Reliability Methods in Design and Analysis of Offshore Platforms, Committee on Reliability of Offshore Structures of the Committee on Structural Safety and Reliability of the Structural Division, ST Oct. 83, p2265-2291.

Military Loads Vehicles Onto Platform at Sea, CE July

83, p15-16.

Oil Platform, CE June 83, p44-45.
On Reliability and Active Control of Tension Leg Platforms, Zolan Prucz and Tsu T. Soong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p903-906.

Plastic Analysis of Laterally Loaded Circular Tubes, Carlos Guedes Soares and Tore H. Soreide, ST Feb.

83, p451-467.

Regulation and Offshore Oil and Gas Facilities, Arrie Bachrach, David Morycz, Suzanne Phinney and Stephen Kahane, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al,

Trenas and the Engineer, Ronald D. Neuteld, et al, eds., 1983), p36-39.

Vertical Vs. Horizontal Cylinders in Waves, John H. Nath, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p704-721.

Wave-Induced Slides in South Pass Block 70, Mississippi Delta, Robert G. Bea, Stephen G. Wright, Partha Sircar and Alan W. Niedoroda, GT Apr. 83, p619-644.

Offshore structures
2- and 3-Dimensional Deterministic Freak Waves, Soren Peter Kjeldsen, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p677-694.
Artificial Islands, Frank P. Robertson, CE Aug. 83,

Breakout Theory for Offshore Structures Seated on

Sea-Bed, Mostafa A. Foda, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p288-299. Breakwater Protects Asbury Park's Convention Hall,

Alfred R. Pagan, (Coastal Structures '83, J. R. Weggel, ed., 1983), p186-192. Characterization of Offshore and Coastal Ice Conditions, Kennon D. Vaudrey, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p3-16.

Design and Construction of Hadera Offshore Coal

Unloading Terminal, S. L. Yaron, J. Shimoni, C Tzachar and D. Zwemmer, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1786-1799.

Design and Full Scale Testing of Elastomeric Bridge Bearings for Trestle and Jetty Trestle of Super Tanker Offshore Terminal, Syed I. Husain, (Proceedings of Ports 83, Kong Wong, ed., 1983), p480-494.

Design Considerations for Offshore Piles, M. F. Randolph, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE,

1983), p422-439.

Design for Ice Forces, Stan R. Caldwell, ed. and Randy D. Crissman, 1983, 218pp. Design of Prefabricated Offshore Structures for Ice

Forces, Brian J. Watt, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE,1983), p17-37

Design of Vertical Chords in Deepwater Platform, Shouji Toma and Wai F. Chen, ST Nov. 83,

p2733-2746.

Diffraction by Axisymmetric Green's Function, Min-Chu Chen and Robert T. Hudspeth, WW Feb. 83, p117-121.

Dynamic Sediment Properties, Mississippi Delta, Sibel Pamukcu, J. K. Poplin, J. N. Suhayda and M. T. Tumay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p111-132.

Effective Stress Capacity Model for Piles in Clay, Leland M. Kraft, Jr., GT Nov. 82, p1387-1404. Environmental Aspects of an Offshore Coal Terminal, David Atkin and Andrew T. Zador, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p997-1014.

Fixed and Floating Axisymmetric Structures in Waves, Michael de St. Q. Isaacson, WW May 82, p180-199. Guyed Tower with Dynamic Mooring Properties, Denby Grey Morrison, ST Nov. 83, p2578-2590. Instrumentation and Performance Observations Off-

shore, Elmo DiBiagio and Kaare Hoeg, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p604-625. Load Interaction in T-Joints of Steel Circular Hollow

Sections, Alex Stamenkovic and Keith D. Sparrow,

ST Sept. 83, p2192-2204.

Numerical Calculation of Seiche Motions in Harbours of Arbitrary Shape, P. Gaillard, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p172-191. Ocean Wave-Induced Liquefaction Analysis, M. S.

Nataraja and H. S. Gill, GT Apr. 83, 5733-590.
Offshore Artificial Structures and Their Influence on the Israel and Sinai Mediterranean Beaches, Yaacov Nir, (Proceedings of Coastal Engineering 82, Billy L.

Edge, ed., 1983), p1837-1856. Oil Platform, CE June 83, p44-45.

Proceedings of the Conference on Geotechnical Practice in Offshore Engineering, Stephen G. Wright, ed., 1983, 630pp.

Quasi-2-D Forces on Vertical Cylinder in Waves, Peter K. Stansby, Geoffrey N. Bullock and Ian Short, WW

Feb. 83, p128-132.

Response Analysis of Offshore Structures, Kapil C. Barik and Velu Paramasivam, WW Nov. 83, p363-

Risk Assessment for Offshore Structures: A Review, Erik Vanmarcke and Demosthenes Angelides, ST Feb. 83, p555-571. Shear Strength Interpretation for Gulf of Mexico Clays,

G. W. Quiros, A. G. Young, J. H. Pelletier and J. H-C Chan, (Geotechnical Practice in Offshore Engineering, Stepehn Wright, ed., New York: ASCE, 1983), p144-165. Stability of Arctic Gravity Structures, Vitoon Vivatrat

and Brian J. Watt, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p267-287.

Stochastic Response of Prototype Offshore Structure, Michael G. Grecco and Robert T. Hudspeth, ST May

83, p1119-1338.

Stress History and Strength of Stiff Offshore Clays, Charles C. Ladd and Amr S. Azzouz, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p65-80. Stresses Due to Wave-Induced Bottom Pressures, Leland M. Kraft, Jr. and Steven C. Helfrich, GT July

83, p986-994.

Structures Congress 82, CE Feb. 83, p56-59.

Transportation Strategies for Export Coal Terminals in the Coastal Zone, Paul D. Cribbins, (Coastal Zone

83, Orville T. Magoon, et al, eds., 1983), p1015-1031.
Valdez Silts: A Challenge in Design of Offshore Facilities, J. P. Singh and D. W. Quigley, (Geotech-

Facilities, J. P. Singh and D. W. Quigley, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p81-98.

Wave and Earthquake Response of Offshore Structures: Evaluation of Modal Solutions, Stavros A. Anagnostopoulos, ST Oct. 82, p2175-2191.

Wave Interaction with Large Submerged Structures, Henry William Kidman Bird and Robin Shepherd, WW May 82, p146-162.

Wave Protection for an Offshore Runway Extension, Alaska, K. R. Hall, C. I. Rauw and W. F. Baird, (Coastal Structures '83, J. R. Weggel, ed., 1983), p157-170. p157-170.

Wave-Induced Pore Pressures in Submerged Sand Layer, Yuet Tsui and Steven C. Helfrich, GT Apr. 83,

p603-618.

Oil pipelines Arctic Pipeline River Crossings—Design Trends and Lessons Learned, Wim M. Veldman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Facility Designs in the Arctic for the Kuparuk Pipeline System, Victor Manikian, Kenneth J. Nyman and U. J. Baskurt, (Pipelines in Adverse Environments II,

Mark Pickell, ed., 1983), p84-107.
Finite Element Techniques for Pipelines Subjected to Extreme Loads, Dennis Row, Grawam H. Powell and Mary W. Goodson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p474-485.

Scouring Induced Vibrations on Sub-Sea Pipelines, Amit B. Ghosh and Louis M. Laushey, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p108-128.

Oil shale

A Case History of Developing Water Quality Standards and Use Classification by a Shale Oil Industry, Paul N. Seeley and Allan L. Udin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p783-788.

Compaction and Related Properties of Retorted Oil Shale, Wesley G. Holtz, GT Oct. 83, p1246-1258. Mechanical Characterization of Oil Shale, Ken P. Chong and George F. Dana, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Potential for Groundwater Attenuation of Mutagenic Compounds from Raw and Spent Oil Shales, Robert E. Hinchee and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et

al, eds., 1983), p744-750.

Oil spills

Biological Sensitivity, Oil Residence and Human Use Indices for Coastal Environments Threatened by Oil Spills, Gordon A. Robilliard, Edward H. Owens, John R. Harper and Ted P. Winfield, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1374-1390.

California's Oil Spill Response Capability: Is It Adequate? Brian E. Baird, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1402-1410. Contingency Planning Guidelines for Offshore Oil and Gas Development, Ann Hayward Rooney-Char, Jerry A. Galt, John T. E. Gilbert and John H. Robinson, (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p1352-1373.

Coordination for Coastal Hazard Response, Sandra Barrett, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p2571-2577. NOAA's Role in Scientific Planning for Spill Response, John H. Robinson and Ann Hayward Rooney-Char, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1391-1401.

Operational Oil Spill Detection and Mapping, Michael E. Kirby and Thomas T. Alfoldi, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1411-1426.

Behavior of Unanchored Oil Storage Tanks: Imperial Valley Earthquake, Medhat A. Haroun, TC Apr. 83,

Computational Aspects of Dynamic Stability of Elastoplastic Shells, Lothar Haefner and Kaspar J. William, (Recent Advances in Engineering Mechanics and Their (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p376-379. Criteria for Settlement of Tanks, W. Allen Marr, Jose A. Ramos and T. William Lambe, GT Aug. 82,

Dilution of a Dense Vertical Jet, Wesley P. James, Ignacio Vergara and Ken Kim, EE Dec. 83, p1273-

Seismic Response of Submerged Oil Storage Tank, Chi C. Tung, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p299-302.

One dimensional flow

Modeling of Unsteady-Flow Water Temperatures, M. Hanif Chaudhry, David E. Cass and John E. Edinger,

HY May 83, p657-669.

Two-Dimensional Exponential Infiltration Equations, Yu-Si Fok, Sang-Ok Chung and Clark C. K. Liu, IR Dec. 82, p231-241.

On-site disposal systems
Management of On-Site Disposal Systems: Case Study, Jerry Y. C. Huang, EE Aug. 83, p845-858.

Open channel flow

Open channel flow
Accuracy Criteria in Diffusion Routing, Victor Miguel
Ponce and Fred D. Theurer, HY June 82, p747-757.
Applicability of Dam-Break Flood Wave Models,
Nikolaos D. Katopodes and David R. Schamber, HY
May 83, p702-721.
Boundary Shear in Smooth and Rough Channels,
Donald W. Knight, HY July 81, p839-851.
Calculation of Coaxial Heated Water Discharge,
Michael A. Leschving and Wolfang Roll 11 Oct.

Michael A. Leschziner and Wolfgang Rodi, HY Oct. 83, p1380-1385.

Cohesive Material Erosion by Unindirectional Current, J. William Kamphuis and Kevin R. Hall, HY Jan. 83,

Comparison of Open Channel Constriction Ratings, Abbas A. Fiuzat and Gaylord V. Skogerboe, HY Dec. 83, p1589-1602.

Computation of 3-D Flow and Shear in Open Channels, Chao-Line Chiu and Gwo-Fong Lin, HY Nov. 83, p1424-1440. Detection of Coherent Structures in Open Channel

Flow, Th. Dracos and M. Bertchler, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1311-1314.

Flow Near Groin-Like Structures, Nallamuthu Rajaratnam and Benjamin A. Nwachukwu, HY March 83, p463-480.

Flow Resistance in Wide Rectangular Channels, W. R.

C. Myers, HY April 82, p471-482.
Flow Velocities in Pipelines, Richard D. Pomeroy, HY Aug. 83, p1108-1117. Length of Flow Separation over Dunes, Peter Engel,

HY Oct. 81, p1133-1145. Limits for Practical Level-Basin Design, Albert J. Clemmens and Allen R. Dedrick, IR June 82, p127-141.

Mathematical Model for Erodible Channels, Howard

H. Chang, HY May 82, p678-689.

Minimum Specific Energy in Compound Open Channel, Merritt E. Blalock and Terry W. Sturm, HY June p699-717.
 Modeling Circulation in Depth-Averaged Flow, Victor

M. Ponce and Steven B. Yabusaki, HY Nov. 81, p1501-1518.

Nature of Wave Attenuation in Open Channel Flow, Victor Miguel Ponce, HY Feb. 82, p257-262.

Nonuniform Laminar Free-Surface Flow, Ioannis K. Tsanis and Hans J. Leutheusser, EM April 82,

p36-398.

On Secondary Motions in Open Channel Flow, A. Jacob Odgaard, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1220-1223. Open Channel Transitions: Rational Method of Design, Nandana Vittal and V. V. Chiranjeevi, HY Jan. 83,

Overflow Turbulent Boundary Layer and Its Characteristics, Zaicho Liang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1208-1211.

Performance of Large Measuring Flumes in Main Canals, J. A. Replogle, A. J. Clemmens, S. W. Tanis and J. H. McDade, (Advances in Irrigation and

Drainage, John Borrelli, ed., 1983), p530-537.

Permissible Velocity Correction Factors, Subhash C. Mehrotra, HY Feb. 83, p305-308.

Plan Geometry of River Meanders, Howard H. Chang, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p133-140.

Reflections on Rivers, Research, and Rouse, John F. Kennedy, HY Oct. 83, p1253-1271. Saltation in Water Dynamics, Peter J. Murphy and Hamid Hooshiari, HY Nov. 82, p1251-1267.

Sediment Transport and Unit Stream Power Function,

Chih Ted. Yang and Albert Molinas, HY June 82, p774-793. Sediment Transport in Stratified Turbulent Flow, Bruce

A. DeVantier and Bruce E. Larock, HY Dec. 83, p1622-1635.

Side Discharges into Open Channels: Mathematical Model, Ayodeji O. Demuren and Wolfgang Rodi, HY Dec. 83, p1707-1722.

Surging in Combined Free Surface-Pressurized Systems, Mark J. Sundquist and Constantine N. Papadakis, TE March 83, p232-245.

Time Scale for Scour Downstream of Hydraulic Jump, Javad Farhoudi and Kenneth V. H. Smith, HY Oct. 82, p1147-1162.

Open channels Computer Control for Irrigation-Canal System, Darell D. Zimbelman and David D. Bedworth, IR March 83, p43-59.

Difference Methods of Flow in Branch Channel, Zi-Cai Li, Ling-Jia Zhan and Hui-Li Wang, HY March 83, p424-446.

Discharge Assessment in Compound Channel Flow, Peter R. Wormleaton, John Allen and Panos Hadjipanos, HY Sept. 82, p975-994.

Energy Expenditure in Curved Open Channels, Howard H. Chang, HY July 83, p1012-1022. Flow Depth in Sand-Bed Channels, William R. Brown-

ie, HY July 83, p959-990. Minimum Specific Energy in Compound Open Channel, Merritt E. Blalock and Terry W. Sturm, HY June

p99-115.

Sediment and Fluid Interaction in Open Channels, Nobuhisa Kobayashi, (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p603.

Velocity Distribution in Smooth Rectangular Open Channels, Kandula V. N. Sarma, P. Lakshminara-yana and N. S. Lakshmana Rao, HY Feb. 83, p270-289

Waves in Open Channels, Jinsung Shi and Chia-Shun Yih, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p47-89.

Open pit mining
Sensitivity of Very Hard Pliocene Marl, Panaghiotis C. Kotzias and Aris C. Stamatopoulos, GT Dec. 83, p1526-1533.

Cracking at Openings in Prestressed Beams at Transfer, John B. Kennedy and A. M. El-Laithy, ST June 82, p1250-1265.

Torsion Tests of R/C Beams with Large Openings,

Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1780-1791.
Ultimate Torque of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.

Operating costs

Cost Trade-Off Analysis for Bus Facility Expansion, Wilbert E. Wilhelm and Wyley J. Parks, TE Jan. 83, p124-136.

Design Considerations for Reducing Operating Costs, Roger W. Beieler, (Advances in Irrigation and Drain-age, John Borrelli, ed., 1983), p147-153.

Managing for the Eighties, Walter J. Addison, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p94-99. New Wastewater Process Cuts Plant Costs 60%, Stan A.

Christopher and Russel Titus, CE June 33, p39-41.

Operation and Maintenance Costs and Water Use by Idaho Irrigation Projects, Richard G. Allen and Charles E. Brockway, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p160-174.

Operating criteria

Acceptance Testing of Concrete: Various Plans, Robert B. Rutledge and Luke M. Snell, ST Jan. 83, p143-153.

Operation and maintenance costs

O&M Costs and Optimal Capacity Expansion, Frank Pearson and Charles R. Scherer, EE Aug. 81, p619-633.

Optical properties

Simulation of Optical Properties of Black Chrome, Spencer T. Wu and Larry W. Masters, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1047-1050.

Optimal control methods Building Critical-Mode Control: Nonstationary Earthquake, Jann N. Yang and M. J. Lin, EM Dec. 83, p1375-1389.

Control of Structures Subjected to Seismic Excitation, Leonard Meirovitch and Lawrence M. Silverberg, EM Apr. 83, p604-618.

Breakwater Design and the Integration of Practical Construction Techniques, Jan H. van Oorschot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p108-121.

Computer Aided Optimization of Bridge Girders, B. G. Computer Aided Optimization of Bridge Girders, B. C. Rabbat and T. Takayanagi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p646-659.

Estimating Unit Hydrograph Peak Rate Factors, Richard H. McCuen and Timothy R. Bondelid, IR June 83, p328-250.

Graphical Method of Optimization: A Short Cut, Sandor Popovics, CO June 82, p211-218.

Gravity Wastewater Collection Systems Optimization, A Gueta S. I. Mehodicate and P. Khanna FE Oct.

A. Gupta, S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209.

Managing Water Quality by Mixing Water from

Different Sources, Tung Liang and Soronadi Nnaji, WR Jan. 83, p48-57.

Minicomputers in Structural Optimum Design, Bogdan O. Kuzmanovic and Nicholas Willems, CE May 82, p82-84.

Optimal Design of Small Reservoir Systems, Prem N. Sharma and Otto J. Helweg, IR Dec. 82, p250-264. Optimal Grillage Layout for Given Natural Frequency, Niels Olhoff and George I. N. Rozvany, EM Oct. 82,

p971-975.

Optimization Methods in Structural Design Practice, Andrew B. Templeman, ST Oct. 83, p2420-2433. Optimization of Connecting Shell, Boubacar Diallo and Fernand Ellyin, EM Feb. 83, p111-126.

Optimization of Gravity-Fed Water Distribution Sys-

tems: Application, Pramod R. Bhave, EE Apr. 83, p383-395.

Optimization of Irrigation Systems Rehabilitation Planning, Kyung H. Yoo and J. R. Busch, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p391-398.

Optimization of Refuse Collection Systems, Anand V. Chiplunkar, S. L. Mehndiratta and P. Khanna, EE Dec. 81, p1203-1210.

Optimization of Structures in Nonlinear Response, Manohar P. Kamat and Layne T. Watson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p679-682.

Optimum Design of Prestressed Concrete Tension Members, Antoine E. Naaman, ST Aug. 82, p1722-

Optimum Number and Capacity of Seaport Berths, Michihiko Noritake and Sakuo Kimura, WW Aug.

83, p323-339.

Point Rainfall Estimation for a Mountainous Region, Yeou-Koung Tung, HY Oct. 83, p1386-1393.

Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983, 784pp.

Computation, James K. Nelson, Jr., ed., 1983, 784pp.
Robust Penalty Method for Structural Synthesis,
Manohar P. Kamat, EM Aug. 83, p1023-1041.
Shape Optimization of Skeletal Structures: A Review,
B. H. V. Topping, ST Aug. 83, p1933-1951.
Shape Optimization of Structural Components, Jean W.
Hou, Edward J. Haug and Kyung, K. Choi, (Recundadamates in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983). p04-97.

1983), p94-97.

Shear Building Optimization with Dynamic Con-straints, Kuan-Chen Fu and Jamal M. Abu-Eid, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p764-768. Sloping Float Breakwater Model Study, Robert D.

Carver and D. Donald Davidson, (Coastal Structures

'83, J. R. Weggel, ed., 1983), p17-32.

Structural Optimization: A State-of-the-Art Report, Ovadia E. Lev, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p90-93.

Minimax in Structural Design, Moshe B. Fuchs, ST May 83, p1107-1117.

Optimal Diameter Selection for Pipe Networks, Ronald E. Featherstone and Karim K. El-Jumaily, HY Feb. 83, p221-234.

Optimum design

Building a Port under Unusual Site Conditions, S. K. Sarkar, G. A. Munfakh and R. J. Castelli, (Proceedings of Ports 83, Kong Wong, ed., 1983), p269-283.

Concrete Plate Reinforcement: Frictional Limit Design, Zdenek P. Bazant and Chuan Lin, ST Nov. 82,

p2443-2459

Constrained Optimal Layouts through Prager-Shield Criteria, G. I. N. Rozvany and C. -M. Wang, EM Apr. 83, p648-654. Design of Protective Structures Against Blast, Shlomo

Ginsburg and Uri Kirsch, ST June 83, p1490-1506. Design Optimization of Lateral Load Resisting Frame-

works, Emmanuel E. Velivasakis and Robert DeScenza, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p130-143.

Fundamental Postulate in Structural Safety, Ove

Ditlevsen, EM Aug. 83, p1096-1102. Geometric Optimization of Arches for Stability, George Lin, (Recent Advances in Engineering Mechanics an

Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1113-1114.

An Integrated System Approach to Structural Synthesis, B. Prasad, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1992), p23-16-5-721.

1983), p155-171.

Model Study of Elastic - Plastic Pile Foundation, Avanti C. Shroff, (Proceedings of the Eighth Confer-ence on Electronic Computation, James K. Nelson, Jr., ed., 1983), p62-73.

Optimal Design of Branched Water Supply Networks, Anand V. Chiplunkar and P. Khanna, EE June 83,

p604-618.

Optimal Layout for Branching Distribution Networks, Pramod R. Bhave and Chan F. Lam, TE July 83, p534-547.

Optimization of Antenna Structure Design, Roy Levy, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p114-129.

Optimizing Pier Design by Utilizing Deck Stiffness, Dennis V. Padron and Stanley M. White, (Pro-ceedings of Ports 83, Kong Wong, ed., 1983), p163-177.

Optimum Design of Welded Steel Columns, Metwally Abo-Hamd, ST Nov. 83, p2503-2510.

Reliability Based Optimum Design of Concrete Frames,

Adang Surahman and Kamal B. Rojiani, ST March 83, p741-757. Shape Modification Using Sensitivity Information, Theodore J. Weidner and Marks Shephard, (Pro-

ceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p144-154.

Shape Optimization of a Solid of Revolution, Young W. Chun and Edward J. Haug, EM Feb. 83, p30-46. Shear Building Optimization with Dynamic Constraints, Kuan-Chen Fu and Jamal M. Abu-Eid, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p764-768.

Minimum Lot Size, CE Dec. 83, p18. Residential Zoning, CE Nov. 83, p22.

Organic carbon
Organic Carbon Decay in Stream with Biofilm Kinetics,
S. Srinanthakumar and A. Amirtharajah, EE Feb. 83, p102-119.

Organic chemicals

Distribution of Kepone in the James River Estuary, Donald J. O'Connor, John A. Mueller and Kevin J. Farley, EE Apr. 83, p396-413. Implementation of a Field Experiment on Groundwater

Transport of Organic Solutes, Douglas M. Mackay, John A. Cherry, David L. Freyberg, Gary D. Hopkins, Perry L. McCarty, Martin Reinhard and Paul V. Roberts, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p24-31.

Trichloroethylene Removal by Packed Column Air Stripping: Field Verified Design Procedure, Michael D. Cummins and James J. Westrick, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p442-449.
Uptake of Airborne PCBs by Terrestrial Plants Near the Tailwater of a Dam, Edward H. Buckley and T. James Tofflemire, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p662-669.

Voc Emission Research Program for Hazardous Waste Treatment and Disposal Facilities, Stephen C. James, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p660-661.

Organic compounds

Design of Carbon Beds to Remove Humic Substances. M. C. Lee, J. C. Crittenden, V. L. Snoeyink and M. Ari, EE June 83, p631-645.

Volatilization of Organic Compounds from Streams Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 82,

p973-989.

Organization theory

Authority Structures for Construction Project Management, Randolph Thomas, John M. Keating and Allen C. Bluedorn, CO Dec. 83, p406-422.

Organizational policy Improving Productivity, J. R. King, Jr., ed., 1983,

Liability: Attitudes and Procedures, Robert E. Vansant, El Oct. 83, p276-281.

Is Integrated Environmental Management Feasible? Neil S. Grigg, El Apr. 83, p71-80.

Orthotropic models

Comment on Orthotropic Models for Concrete and Geomaterials, Zdenek P. Bazant, EM June 83,

Orthotropic plate Cluster Frequencies of Continuous Uniform Plates, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p.2893-2904.

Frequencies of Continuous Plates by Moment-Ratio Method, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p2905-2921.

General Solution to Bending of Orthotropic Sectors, Carol Rubin, EM Feb. 83, p168-174.

Orthotropic Plates under Varying Compression, Ichizou Mikami, ST Jan. 83, p257-261.

Quarter Plane Problems for Fibre Reinforced Elastic

Plates, A. P. S. Selvadurai and N. Moutafis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p759-762.

Statistical Analysis of Timber Bridges, Baidar Bakht,

ST Aug. 83, p1761-1779.

Transverse Shear in Multibeam Bridges, Baider Bakht, Leslie G. Jaeger and M. S. Cheung, ST Apr. 83,

Orthotropic plates

Orthortopic plates, Lembit M. Kutt and Maciej P. Bieniek, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p660-663.

Orthotropism

New Chicago-Type Bascule Bridge, Henry Ecale and Tsin-Hwei Lu, ST Oct. 83, p2340-2354.

Transient Load Modeling: Clipped Normal Processes, Ove Ditlevsen and Henrik O. Madsen, EM Apr. 83, p494-515.

A Universal Strouhal Law, Enso Levi, EM June 83, p718-727.

First-Passage Probability for Two-Mode Systems, Loren D. Lutes and Shen-Ho Tzuang, EM Dec. 83, p1358-1374.

Oscillatory flow

Stability of Armour Units in Oscillatory Flow, Hans F. Burcharth and A. C. Thompson, (Coastal Structures '83, J. R. Weggel, ed., 1983), p71-82.

Design Features and Construction Techniques for Ocean Outfall Scarborough, Maine, Richard A. Jubinville and Robert D. Arsenault, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p552-562.

Dilution of a Dense Vertical Jet, Wesley P. James Ignacio Vergara and Ken Kim, EE Dec. 83, p1273-

EBDA Outfall Meets Challenges of San Francisco Bay, H. B. Tennant, D. G. Gray and O. Fenton, (Pipelines in Adverse Environments II. Mark Pickell. ed., 1983). p639-649.

kenai, Alaska, Outfall Crosses Tidal Flat, Loren D. Leman and Vince W. Rybel, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p573-578. Mixing Characteristics of Negatively Buoyant Swirling Plume, Masamichi Inoue and Tsung-Chow Su, HY

July 83, p1049-1056.

Ocean Outfall Design Treated Wastewater Discharges, Peter W. Failla, Charles M. Norkis, Francis Pandullo and Philip F. Healy, (Pipelines in Adverse Environ-ments II, Mark Pickell, ed., 1983), p563-572. Plume Dilution for Diffusers with Multiport Risers, Morton S. Isaacson, Robert C. Y. Koh and Norman

H. Brooks, HY Feb. 83, p199-220. The Relining of Saiccor's Effluent Outfall, Bernstein Mark, Hugh P. L. Ahrens and Michael D. Smart, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2581-2594. San Francisco's Southwest Ocean Outfall, Y. Eisenberg

and D. D. Treadwell, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2418-2435.

The San Mateo Coastside Regional Outfall, Michael A Maggi, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p541-551.

System Design of the San Francisco Ocean Outfall, Henry H. C. Lin, George J. Murphy, Yair Eisenberg and Loring E. Hanson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1935-1949.

Measurement Device Effect on Channel Water Loss, Thomas J. Trout, IR March 83, p60-71.

Effect of Geologic History on the Design Parameters of Heavily Overconsolidated Till, Nassef Soliman, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p246-268. Side Load Transfer in Driven and Drilled Piles,

Michael W. O'Neill, GT Oct. 83, p1259-1266.

Static Plate Loading Tests on Overconsolidated Clay Knut H. Andersen and Per Stenhamar, GT July 82, p918-934.

Overconsolidation

Correlation Between G_o and τ_{max} for Kaolinite Clay, G. A. Athanasopoulos and F. E. Richart, GT May 83, p719-723.

K. - OCR Relationships in Soil, Faul II. Street H. Kulhawy, GT June 82, p851-872. - OCR Relationships in Soil, Paul W. Mayne and

Overflow Turbulent Boundary Layer and Its Characteristics, Zaicho Liang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1208-1211.

Stormwater Pollution Control: Structural Measures, E. John Finnemore, EE Aug. 82, p706-721.

Overland flow

Finite Element Simulation of Overland Flow, Nathaniel Peters, George Blandford and Michael E. Meadows, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p466-475.

Nitrogen Removal in the Overland Flow Process

-Design Considerations, A. P. Kruzic, R. G. Smith and E. D. Schroeder, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p50-57.

Overloads

Autostress Design of Steel Bridges, Geerhard Haaijer, Phillip S. Carskaddan and Michael A. Grubb, ST Jan. 83, p188-199.

Overpasses

Overpass Blends with Colorado Mountainside, CE Aug. 83, p15. Overpass Collapse Blamed on Falsework, CE Apr. 83,

Railroad Overpass and Bridge Revitalize Battle Creek, CE June 83, p16-18.

Overseas assignments
Working Abroad? What About Taxes? J. Justin Doyle, CE Jan. 83, p41-43.

Overtopping
Hydrologic Evaluation of Dam Safety, Shou-Shan Fan, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

(rronters in ryaratute Engineering, rung 140 shen, ed., 1983), p451-458.

Irregular Wave Overtopping on Gravel Islands, Nobuhisa Kobayashi and Allan M. Reece, WW Nov. 83, p429-444.

Low-Crest Breakwaters, Studies in Random Waves, N.

W. H. Allsop, (Coastal Structures '83, J. R. Weggel, ed., 1983), p94-107.

Unusual Waves on European Coasts, February 1979, Laurence Draper and T. M. Bownass, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

Coastal Engineering 02, vol. 1, billy L. Edge, vol., 1983), p.270-281.

Wave Run-Up at Sea Dikes under Oblique Wave Approach, E. Tautenhain, S. Kohlhase and H. W. Partenscky, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p804-810.

The CM's Liability to the Client-Malpractice, Charles R. Holton, (Liability in Construction Management,

David M. Lee, ed., 1983), p22-29.
The Legal Profile of the Construction Manager, Jeremiah D. Lambert, (Liability in Construction Management, David M. Lee, ed., 1983), p1-21.

Owner Control Obligations on Mega-Projects, Keith C Cost Control, Victor F. Spruill, et al, eds., 1983), p216-223. Crandall, (Current Practice in Cost Estimating and

Owner Management of Risk in Construction Contracts, Palmer H. Graham, (Current Practice in Cost Esti-mating and Cost Control, Victor F. Spruill, et al, eds., 1983), p207-215.

Who Owns the Contract Documents, Michael Loulakis, CE Nov. 83, p40.

Ownership

Title Settlements in San Francisco Bay Historic Wetlands Using the Land Bank Method, Michael R. Valentine, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p456-474.

Ames Test of Ferrate Treated Water, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, Jr., EE Oct. 83, p1159-1167.

Oxygen Revaluation of Oxygen Regimes in Fontana Reservoir, William J. Snodgrass, EE Dec. 83, p1424-1429.

Oxygen demand

eration and Vertical Diffusion of Lake Oxygen, William J. Snodgrass, EE Dec. 83, p1419-1423.
Revaluation of Oxygen Regimes in Fontana Reservoir,
William J. Snodgrass, EE Dec. 83, p1424-1429.

Activated Sludge: A Comparison of Oxygen and Air Systems, Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chmn.), 1983, 112pp.

Mechanical Mixing and Surface Reaeration, Robert B. Banks, Liqa Raschid-Sally and Chongrak Polprasert, EE Feb. 83, p232-241.

Oxyphotolytic Destruction of Trihalomethane in Water, Calvin P. C. Poon, Vicki A. Strikler, Michael J. Mulhare and Dale L. Saad, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p450-455.

A Study of Ozone-Induced Coagulation, Mirat D. Gurol and Michael Pidatella, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p118-124.

Parallel processing Finite Element Analysis Computation with Parallel VLSI, J. McGregor and M. Salama, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p540-553.

Parallel Solution of Finite Element Equations, M. Salama, S. Utku and R. Melosh, Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p526-539.

Nonlinear Runoff Modeling: Parameter Identification, Gilles G. Patry and Miguel A. Marino, HY June 83, p865-880.

Parameter Identification Problems in Structural and Geotechnical Engineering, F. E. Udwadia and J. A. Garba, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p319-322.

Parking Policy and Downtown Economic Development, Michael D. Meyer and Mary McShane, UP May 83, p27-43.

Parking facilities

Parking Garage Supported on Structural Fill, James J. Schnabel and Ray E. Martin, CO Sept. 83, p286-296.

Parking Policy and Downtown Economic Development, Michael D. Meyer and Mary McShane, UP May 83, p27-43.

California State Parks: The Marine Program, Charles Mehlert, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1544-1549.

Research for Management: GBR Marine Park, Aus-

tralia, John L. Kermond, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2877-2889. Underwater Parks—A Management Challenge, Ron Russo, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1535-1543.

Particle distribution

Numerical Modeling Study of Lake Pontchartrain, Glenn D. Hamilton, Cecil W. Soileau and Arthur Stroud, WW Feb. 82, p49-64.

Particle Concentration Predictions in Settling Basins, David R. Schamber and Bruce E. Larock, EE June 83, p753-764.

Particle Motion under Stokes Waves, Eliezer Kit and Michael Stiassnie, WW Aug. 81, p202-204.

Bed Material Sorting in Pools and Riffles, Nani G. Bhowmik and Misganaw Demissie, HY Oct. 82, p1227-1231.

Particle size distribution

Mixing Effects on Coal Processing Waste Treatment, William R. Knocke and Letitia P. Jones, EE Dec. 83, p1295-1310

Particles in Thickening: Mathematical Model, Desmond F. Lawler, Philip C. Singer and Charles R. O'Melia, EE Apr. 83, p332-349.
Sludge Conditioning and Particle Size Distribution,

Paul T. Bowen and Thomas M. Keinath, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p391-398.

A Study of Ozone-Induced Coagulation, Mirat D.

Gurol and Michael Pidatella, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p118-124.

Particles

Fall Velocity of Particles in an Oscillating Flow, Paul A. Hwang, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p605. Permeability-Anisotropy due to Particle Shape, K. -J. Witt and J. Brauns, GT Sept. 83, p1181-1187.

Passenger Terminals
Atlanta's New Central Passenger Terminal Complex,
James F. Kortan, TE Nov. 80, p765-774.

Passenger transportation

Transferabilities of Urban Travel Demand Models, Fong-Lieh Ou and Jason C. Yu, TE July 83, p579-595.

Passenger vehicles

Estimation of Left-Turn Traffic Parameters, Feng-Bor

Lin and Theodore T. Nadratowski, TE May 83, p347-362

Pathogens

Chlorine Inactivation of a DNA-Containing Enteric Virus, C. C. Churn, G. D. Boardman and R. C. Bates, (National Conference on Environmental Engineering,

(National Conjerence on Environmental Engineering, Allen Medine, et al., eds., 1983), p426-432. Pathogen Survival during Static Pile Composting of Municipal Wastewater Sludge, Paul L. Bishop, William R. Chesbro and Gail R. Zamarchi, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p381-390.

Pavement condition

Arizona's Statewide Pavement Management System. Kumal Golabi and Ram Kulkarni, CE Apr. 83, p43-47.

Pavement Management for Large Highway Networks, Walter P. Kilareski and Charles J. Churilla. TE Jan.

Pavement Management Systems: Selecting Mainte-nance Priorities, Fred N. Finn, CE Sept. 83, p55-59. Recent Developments in Pavement Skid Resistance, Frederick E. Jordan and Richard C. Hasbrouck, CE Feb. 83, p64-67.

Sample Size of Pavement Deflections by Nomograph, Sudipta S. Bandyopadhyay, TE July 83, p599-604.

Pavement damage Analysis of Concrete Pavement Blowups, Arnold D. Kerr and Patrick J. Shade, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p730-733.

Pavement deflections Engineer's Notebook: Determining Sample Size of Pavement Deflections by Nomograph, Sudipta Ban-dyopadhyay, CE Apr. 83, p57-59.
Finite Element Analysis of Jointed Concrete Pave-

ments, Yang H. Huang and Xue-Jun Deng, TE Sept.

83, p689-705

Loading Mode Effects on Pavement Deflections, Mario S. Hoffman, TE Sept. 83, p651-668. Sample Size of Pavement Deflections by Nomograph, Sudipta S. Bandyopadhyay, TE July 83, p599-604.

Pavement design Assess Subgrade Rutting Potential by Stress Factor, Yu

T. Chu, TE May 83, p462-470. Equivalent Granular Base Moduli: Prediction, Brian E. Smith and Matthew W. Witczak, TE Nov. 81, p635-652

Pavement Management for Large Highway Networks, Walter P. Kilareski and Charles J. Churilla, TE Jan. 83, p33-45.

Subgrade Contact Pressures under Rigid Pavements, Yu T. Chou, TE May 83, p363-379.

Pavement deterioration

Arizona's Statewide Pavement Management System, Kumal Golabi and Ram Kulkarni, CE Apr. 83, p43-47.

Pavement Management Systems: Selecting Mainte-nance Priorities, Fred N. Finn, CE Sept. 83, p55-59.

Pavement overlays

Engineer's Notebook: Determining Sample Size of Pavement Deflections by Nomograph, Sudipta Ban-dyopadhyay, CE Apr. 83, p57-59. Nondestructive Testing Cuts Runway Rehab Costs, James J. Pantina, CE Nov. 83, p43-45.

Pavement recycling

Asphalt Recycling Increases for '82, CE Feb. 83, p6.

Arizona's Statewide Pavement Management System, Kumal Golabi and Ram Kulkarni, CE Apr. 83, p43-47.

Dynamic Analysis of Airport Pavements, Kamol Vajarasathira, Muzaffer Yener and Edward C. Ting, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p166-169.

Effect of Oil Field Trucks on Light Pavements, John M.

Mason, Jr., TE May 83, p425-439. Finite Element Analysis of Jointed Concrete Pavements, Yang H. Huang and Xue-Jun Deng, TE Sept. 83, p689-705.

Fly Ash Sulfur Concrete, William J. Head and Min-Fu

Liao, TE May 81, p345-363.
Georgia's Low-Cost Approach to Rehabilitating Concrete Pavements, CE Aug. 83, p50-54.

Hydraulic Resistance of Pavement Surfaces, Joseph R. Reed and David F. Kibler, TE March 83, p286-296. Loading Mode Effects on Pavement Deflections, Mario

S. Hoffman, TE Sept. 83, p651-668.

Pavement and Bridge Rehab Covered at Fort Worth Conference, Daniel Dake, CE Aug. 83, p60.

Precast Repair of CRC Pavements, Alvin H. Meyer and

B. F. McCullough, TE Sept. 83, p615-630.

Recent Developments in Pavement Skid Resistance.

Frederick E. Jordan and Richard C. Hasbrouck, CE

Feb. 83, p64-67.

Spectra of Road Surface Roughness on Bridges,
Hideyuki Honda, Yasuo Kajikawa and Tameo

Kobori, ST Sept. 82, p1956-1966.
Yield-Line Analysis of Slabs-on-Grade, Robert A.
Baumann and Frank E. Weisgerber, ST July 83, p1553-1568.

Payment

Payment Timing as a Factor in Bid Evaluation, Shlomo Selinger, CO Sept. 83, p335-341.
Payment Witholding, CE Oct. 83, p27.

Practical Method of Estimating Peak Flow, Beni P. Sangal, HY Apr. 83, p549-563.

Peak runoff

Estimating Unit Hydrograph Peak Rate Factors, Richard H. McCuen and Timothy R. Bondelid, IR June 83, p238-250.

Relation Between Curve Number and Runoff Coefficient, Richard H. McCuen and Timothy R. Bondelid, IR Dec. 81, p395-400.

edestrian safety

Pedestrian Safety Through Work Zones: Guidelines, Himmat S. Chadda and Hugh W. McGee, TE Nov. 83, p785-799.

Pedestrian traffic flow

Pedestrian Flow and Level of Service, Abishai Polus, Joseph L. Schofer and Ariela Ushpiz, TE Jan. 83, p46-56.

Prediction and Control of Pedestrian-Induced Vibration in Footbridges, John E. Wheeler, ST Sept. 82, p2045-2065.

Penetration

Concrete Structures: Penetration Depth Estimation, Achintya Haldar, Mehdi Hatami and Frank J. Miller, ST Jan. 83, p245-250.

Friction Capacity of Piles Driven into Clay, Leland M. Kraft, Jr., John A. Focht, Jr. and Srinath F. Amerasinghe, GT Nov. 81, p1521-1541.

Penetration tests

Increase in SPT N-Values Due to Displacement Piles, Mysore S. Nataraja and Barbara E. Cook, GT Jan. 83, p108-113.

The LPC Pressiopenetrometer, Francois J. Baquelin and Jean-Francois Jezequel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p203-219.

Membrane Penetration in Triaxial Tests, K. V. Ramana and V. S. Raju, GT Feb. 82, p305-310.

Percolation

Effect of Irrigated Agriculture on Groundwater, Herman Bouwer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p175-182.

Groundwater Quality Studies in California, Kenneth D. Schmidt and Irving Sherman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p183-191. Groundwater Studies in Texas and Oklahoma, James P.

Law, Jr., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p267-274. Planning Model for Land Application of Sewage Sludge, Douglas A. Haith, EE Feb. 83, p66-81.

Salt Problems from Increased Irrigation Efficiency, J. D. Rhoades, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p427-434.

Cost Control: Integrated Cost/Schedule Performance. Wayne M. Stevens, (Improving Productivity, J. R. King Jr., ed., 1983), p16-27.

Performance evaluation

Performance evaluation Employee Review—The Key to Improving Productivity, J. R. King Jr., ed., 1983), p41-49. Merit Pay in an Engineering Organization, Paul J.

Yaroschak, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p16-22.

Motivation Myths, Realities and Case Histories, Mel-

ville Hensey, (Improving Productivity, J. R. King Jr., ed., 1983), p50-66.

The Performance Evaluation, Milan Moravec, CE Nov.

83, p55-57. Research Needs in Construction Worker Performance. William F. Maloney and James M. McFillen, CO June 83, p245-254.

Striving for Perfection, Kate Ludemen, CE Oct. 83, p36.

Performance rating Crew Performance Measurement via Activity Sampling H. Randolph Thomas and Jeffrey Daily, CO Sept. 83, p309-320.

erformance standards

Criteria for Settlement of Tanks, W. Allen Marr, Jose A. Ramos and T. William Lambe, GT Aug. 82, p1017-1039.

Periodic functions

Some Interactions in Flow-Induced Motions of Tubes, A. K. Bajaj, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p193-196.

Design of Single Pile Supports for Arctic Pipelines, H. W. K. Bird and K. J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p525-540. Pile Construction Practices in Arctic Regions: Stateof-the-Art, Dennis Nottingham, Alan B. Christopher-

son and John L. Larsen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p38-58. Pipeline Supported Structures on Driven Piles in Permafrost: State-of-the-Art, Dennis Nottingham and Alan B. Christopherson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p326-346. Shallow Foundations in Cold Regions: Design, Edward

C. McRoberts, GT Oct. 82, p1338-1349.
Shallow Foundations on Frozen Soil: Creep Settlement,

Branko Ladanyi, GT Nov. 83, p1434-1448.

Thaw Settlement Analysis for Buried Pipelines in Permafrost, Kenneth J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p300-325.

Permeability, soils

Permeability and Consolidation of Normally Consolidated Soils, A. Mahinda Samarasinghe, Yang H. Huang and Vincent P. Drnevich, GT June 82, p835-850.

Process: Is It Working? Clifford D. Rader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2086-2091. The Corps of Engineer's Public Interest Review

Legal Considerations for Special Area Management, Daniel S. Carol and David J. Brower, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2073-2085. New England Division's General-Permit Methodology,

James P. Crawford and Alan D. Randall, (Coast '83, Orville T. Magoon, et al, eds., 1983), p2054-2072.

Santa Barbara Petroleum Transportation Committee, Douglas E. Ucnikura, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2096-2107.

ASCE Salary Survey 1981, Committee on Employment Conditions of the Professional Practice Division of the American Society of Civil Engineers, 1982, 76pp. Research Needs in Construction Worker Performance, William F. Maloney and James M. McFillen, CO June 83, p245-254.

Word Processing: Office Personnel's Friend or Foe? Nhora Cortes-Comerer, CE July 83, p56-59.

Personnel development Motivation Myths, Realities and Case Histories, Melville Hensey, (Improving Productivity, J. R. King Jr., ed., 1983), p50-66.

The Performance Evaluation, Milan Moravec, CE Nov.

83, p55-57. Word Processing: Office Personnel's Friend or Foe? Nhora Cortes-Comerer, CE July 83, p56-59.

Personnel management
Better Trained Construction Supers Would Boost
Productivity, CE Apr. 83, p60-62.
Career Planning and Personnel Management Debuts,

CE Aug. 83, p10.

Employment Conditions: United States versus Over-

seas, Joseph E. Hardee, El Apr. 83, pilo3-112.
Human Resource Management: Turnover or Reten-tion, Raad H. Hermes, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983),

Improving Productivity, J. R. King, Jr., ed., 1983,

101pp.

Managing Productivity during an Attrition Program, Bill Macaitis, (Improving Productivity, J. R. King Jr., ed., 1983), p79-88. The Performance Evaluation, Milan Moravec, CE Nov.

83, p55-57. Personnel: Recruiting, Motivating, Rewarding, 1983,

87pp.

When Enough is Enough, Kate Ludeman, CE Aug. 83, Word Processing: Office Personnel's Friend or Foe? Nhora Cortes-Comerer, CE July 83, p56-59,

Perturbation theory
Robust Penalty Method for Structural Synthesis,
Manohar P. Kamat, EM Aug. 83, p1023-1041.

Effect of Irrigated Agriculture on Groundwater, Herman Bouwer, (Advances in Irrigation and Drainage. John Borrelli, ed., 1983), p175-182.

Groundwater Contamination from Agricultural Chemicals: North Fork, Suffolk County, Joseph H. Baier and Sy F. Robbins, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p1-13.

Pesticide Transport and Bioconcentration Model, Jerald L. Schnoor and Drew C. McAvoy, EE Dec. 81,

p1229-1246

Rapid Detection of Genotoxic Chemicals in the Environment, I. Cecil Felkner, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p204-209.

Petrochemicals

Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, ed. and Richard W. Goodwin, ed., 1983, 53pp.

Oil and Gas Development in Coastal Upland Areas: Understanding the Issues, and Recommendations for Land Use Planning, Melvin R. Willis, (Coastal Zone

Petroleum transportation
Design and Full Scale Testing of Elastomeric Bridge
Bearings for Trestle and Jetty Trestle of Super
Tanker Offshore Terminal, Syed I. Husain, (Proceedings of Ports 83, Kong Wong, ed., 1983),
p480-494.

Planning, Analysis, Design and Construction of 5900 Ft. (1800M) Long Causeway for Crude Oil Export, Syed I. Husain, (Proceedings of Ports 83, Kong Wong,

ed., 1983), p758-771. Santa Barbara Petroleum Transportation Committee, Douglas E. Ucnikura, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2096-2107.

Assessing the Short-Term Reduction in Streamflow pH Associated with Acid Precipitation, W. J. Gburek and Associated with Acid Precipitation, w. J. Gourek and H. B. Pionke, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), P455-465. Filter Plant Design for Asbestos Fiber Removal, Gary S. Logsdon, Glenn L. Evavold, James L. Patton and Jack Watkins, Jr., EE Aug. 83, p900-914. Rate Process Parameters for Erosion and Shear, William E. Kelly, Richard M. Heavers and Gregory

Gardner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p102-106.

Isotherm for Moving Media Reactor, D. J. Bhatt, D. S. Bhargaya and P. S. Panesar, EE Apr. 83, p369-382.

Phosphoric acid

Hydraulic Cement from Fly Ash and Phosphoric Acid, Mustafa Boybay and Turgut Demirel, TE July 83, p506-518.

Phosphorus

Consideration of Short Term Phosphorus Variability, Constantine E. Mericas and Ronald F. Malone, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p509-515. Diffusivity-Based Flux of Phosphorus in Onondaga Lake, Martin C. Wodka, Steven W. Effler, Charles T.

Driscoll, Stephen D. Field and Steven P. Devan, EE Dec. 83, p1403-1415.

Nutrient Loading Estimates for Lakes, Walter Rast and G. Fred Lee, EE Apr. 83, p502-517.

Optimal Cost Control Strategies for Attached Algae, Raymond P. Canale, Martin T. Auer, Yuzuru Matsuoka, Thomas M. Heidtke and Steven J. Wright, EE Dec. 83, p1225-1242.

Performance of Some Empirical Phosphorus Models,
Dintie S. Mahamah and Surinder K. Bhagat, EE

Aug. 82, p722-729.

Predicting Activated Sludge Phosphorus Requirements, Clinton E. Parker and Sallye P. Jones, EE Feb. 83. p245-249.

Sampling Strategy for River Pollutant Transport, Stephen M. Yaksich and Frank H. Verhoff, EE Feb.

83, p219-231.

Simulation and Analysis of Cooling Lake Ecosystems: Impacts of Power Plant Operations, D. B. Porcella, G. L. Bowie, T. M. Grieb and R. K. Kawaratani, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p797-804.

Boundary Element Method Applied to Photoelastic Analysis, Yasushi Mitsui and Shun-ya Yoshida, EM Арг. 83, р619-631.

Photogrammatic surveys
Photogrammetric Mapping for Highways, Roger R.
Chamard, SU March 83, p1-5.

Photogrammetry
Centimeter Precision Airborne Laser Ranging System,
John J. Degnan, Werner D. Kahn and Thomas S.
Englar, Jr., SU Aug. 83, p99-115.
Laboratory Photogrammetric Wave Height Measurement, J. D. Pos and F. A. Kilner, (Proceedings of
Coastal Engineering 82, Vol. 1, Billy L. Edge, ed.,

1983), p695-709.

Photogrammetric Mapping for Highways, Roger R. Chamard, SU March 83, pl-5.

Phototriangulation with Analystical Plotters, Armin Gruen, SU March 83, p6-13.

Photography
The Monitoring of Rubble Mound Breakwater Stability Using a Photographic Survey Method, J. W. J. Kluger, (Proceedings of Coastal Engineering 82, Billy

L. Edge, ed., 1983), p2164-2170.

Revised Technique of Photographic Data Acquisition,
Deane M. Manbeck and Gary Sherman, IR Dec. 83, p437-439.

Photosynthesis Light-Productivity Model for Onondaga Lake, NY, Stephen D. Field and Steven W. Effler, EE Aug. 83, p830-844.

Physical properties

Thermal Dependent Physical Properties of Water, Richard J. Heggen, HY Feb. 83, p298-302.

Light-Productivity Model for Onondaga Lake, NY, Stephen D. Field and Steven W. Effler, EE Aug. 83.

Onodaga Lake and Dissolved Oxygen in Seneca River, Steven W. Effler, Peter Jaran and Charles F. Carter, EE Aug. 83, p945-951.

Phytoplankton Modeling in the Embayments of Lakes, Jan-Tai Kuo and Robert V. Thomann, EE Dec. 83, p1311-1312.

Clear-Water Scour at Cylindrical Piers, Arved J. Raudkivi and Robert Ettema, HY March 83, p338-350.

Down to the Sea in Pleasure Piers, Wesley Marx, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p1865-1881.

Terminals, Victor V. Calabretta and Robert H. Wardwell, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p30-41. Effects of CERC Research Pier on Nearshore Processes, H. C. Miller, W. A. Birkemeier and A. E. DeWall, (Coastal Structures 83, J. R. Weggel, ed., 1983), p769-784.

Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309, Innovative Designs for Navy Piers, Philip Chow and Harvey Haynes, (Proceedings of Ports 83, Kong

Wong, ed., 1983), p442-455.
The Model Study of a Cylindrical Pier Under Irregular
Wave Action, Yi-Qing Sun and Hai-Gui Kang,
(Coastal Structures '83, J. R. Weggel, ed., 1983), p447-460.

Optimizing Pier Design by Utilizing Deck Stiffness, Dennis V. Padron and Stanley M. White, (Pro-ceedings of Ports 83, Kong Wong, ed., 1983), p163-177.

Pier Stabilization Eliminates Need to Reconstruct Damaged Bridge, Peter B. Tubbs, CE Nov. 83,

Piers on Bridge Permit Thermal Movement and Resistance Against Lateral Forces, CE July 83, p19. Preliminary Inspection of Pier Structures, Bryan D.

Wesselink and Richard B. Harley, (Proceedings of Ports 83, Kong Wong, ed., 1983), p51-61. Reflection Characteristics of a Wave-Absorbing Pier, Javier Weckman, Gary N. Bigham and Robert O. Dixon, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p953-960.

Piers, docks

Design Principles for Petroleum Pier Fire Safety, C. R. Willner and W. G. Yeich, (Proceedings of Ports 83, Kong Wong, ed., 1983), p22-29.

Piezometers

Prezometers Installation under Artesian Conditions, Kulbhushan L. Logani, GT Aug. 83, p1121-1125. Probabilistic Updating of Pore Pressure Fields, Waldemar Hachich and Erik H. Vanmarcke, GT March 83, p373-387.

Pile bearing capacities
H-Pile Heave: A Field Test, Demetrious C. Koutsoftis, GT Aug. 82, p999-1016.

G1 Aug. 82, p999-1010.
Pile Settlement in Liquefying Sand Deposit, Pedro A.
De Alba, GT Sept. 83, p1165-1180.
Ultimate Pile Capacity for Eccentric Inclined Load,
George G. Meyerhof, A. Sahab Yalcin and Surendra
K. Mathur, GT March 83, p408-423.

Pile bearing capacity
Scale Effects of Ultimate Pile Capacity, George G.
Meyerhof, GG June 83, p797-806.

Pile bulkheads

Rehabilitation of Steel-Sheet Pile Bulkhead Walls, Casimir J. Kray, (Proceedings of Ports 83, Kong Wong, ed., 1983), p187-199.

Pile caps

Pile Cap Analysis, Joseph E. Bowles, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p102-113.

Pile driving

Analysis of Offshore Pile Driving-A Review, G. G.

Goble, (Geotechnical Practice in Offshore Engineer)

ASCE 1983) Stephen Wright, ed., New York: ASCE, 1983), p596-603.

p596-603.

Dynamic Testing and Analysis of Garoupa PGP-1

Piles, Rune Dahlberg and Sergio Matos, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), P581-595.

Friction Capacity of Piles Driven into Clay, Leland M.

Kraft, Jr., John A. Focht, Jr. and Srinath F. Amerasinghe, GT Nov. 81, p1521-1541.

H-Pile Heave: A Field Test, Demetrious C. Koutsoftis,

GT Aug. 82, p999-1016.

Increase in SPT N-Values Due to Displacement Piles,
Mysore S. Nataraja and Barbara E. Cook, GT Jan.

83, p108-113.
Pile Construction Practices in Arctic Regions: Stateof-the-Art, Dennis Nottingham, Alan B. Christopherson and John L. Larsen, (Cold Regions Construction, Son and John L. Larsen, (Cola Regions Construction, Darryl F. Jordan, et al, eds., 1983), p38-8.

Pile Testing for Waterfront Structures, Arthur J. O'Brien and Douglas W. Lovell, (Proceedings of Ports 83, Kong Wong, ed., 1983), p495-511.

Pipeline Supported Structures on Driven Piles in Demonstrates State of the Art. Bennix Nottingham.

Permafrost: State-of-the-Art, Dennis Nottingham and Alan B. Christopherson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p326-346.

Pile foundation performance Dynamic Lateral Pile-Group Effects, Takaaki Kagawa,

GT Oct. 83, p1267-1285.

Group Action in Offshore Piles, Michael W. O'Neill, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p25-64.

Stress History and Strength of Stiff Offshore Clays, Charles C. Ladd and Amr S. Azzouz, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p65-80.

Pile foundations

Design Considerations for Offshore Piles, M. F. Randolph, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p422-439.

Dynamic Group Effect in Vertical Responses of Piles in

Group, Toyoaki Nogami, GT Feb. 83, p228-243.

Pile, foundations

Dynamic Testing and Analysis of Garoupa PGP-1 Piles, Rune Dahlberg and Sergio Matos, (Geotech-nical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p581-595.

Effective Stress Capacity Model for Piles in Clay, Leland M. Kraft, Jr., GT Nov. 82, p1387-1404. Model Study of Elastic - Plastic Pile Foundation, Avanti C. Shroff, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p62-73.

File Construction Practices in Arctic Regions: State-of-the-Art, Dennis Nottingham, Alan B. Christopher-son and John L. Larsen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p38-58.

Effective Stress Capacity Model for Piles in Clay, Leland M. Kraft, Jr., GT Nov. 82, p1387-1404. Friction Capacity of Piles Driven into Clay, Leland M. Kraft, Jr., John A. Focht, Jr. and Srinath F. Amerasinghe, GT Nov. 81, p1521-1541.

Pile groups
Bridge Dynamic Tests: Implications for Seismic Design,
Bruce M. Douglas and Gary M. Norris, TC Apr. 83,

Dynamic Behavior of Pile Groups, Mohammed M. Ettouney, Joseph A. Brennan and Michael F. Forte, GT March 83, p301-317.

Dynamic Group Effect in Vertical Responses of Piles in

Group, Toyoaki Nogami, GT Feb. 83, p228-243. Dynamic Lateral Pile-Group Effects, Takaaki Kagawa, GT Oct. 83, p1267-1285

Group Action in Offshore Piles, Michael W. O'Neill, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983).

P-Pile Heave: A Field Test, Demetrious C. Koutsoftis, GT Aug. 82, p999-1016. The Maximum Total Wave Forces on Pile Group,

Dahong Qiu, (Coastal Structures '83, J. R Weggel, ed., 1983), p474-481.
Pile Cap Analysis, Joseph E. Bowles, (Proceedings of the

Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p102-113

Pile Group Analysis: A Study of Two Methods, Harry G. Poulos and Mark F. Randolph, GT March 83,

p355-372.

Procedures for Analysis of Laterally Loaded Pile Groups in Soft Clay, Dewaine Bogard and Hudson Matlock, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p499-535.

Proceedings of the Conference on Geotechnical Prac-tice in Offshore Engineering, Stephen G. Wright, ed.,

1983, 630pp.

Site Specific Design of Laterally Loaded Piles, S. Kay,
H. J. Kolk and W. R. van Hooydonk, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p557-580. Ultimate Pile Capacity for Eccentric Inclined Load, George G. Meyerhof, A. Sahab Yalcin and Surendra K. Mathur, GT March 83, p408-423.

Development of P-Y Curves for Layered Soils, Michael Georgiadis, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), 933-6345.

Lateral Pile Analysis in Weak Carbonate Rocks, A. F.

Abbs, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p546-556.

Lateral Response of Fixed-Head Pile, Prabhakar J. Pise,

GT Aug. 83, p1126-1131. New Method for Dynamic Impedance of Piles, George Gazetas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p182-185.

Site Specific Design of Laterally Loaded Piles, S. Kay, H. J. Kolk and W. R. van Hooydonk, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p557-580.

Pile load tests, lateral loading Laterally Loaded Pile Behavior, Michael Georgiadis and Roy Butterfield, GT Jan. 82, p155-165.

Pile loading tests
Driven Piles in a Granular Calcareous Deposit, Javier
Levier Seatte and Antonio Soriano, Gomez Puyuelo, Javier Sastre and Antonio Soriano, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983). p440-456.

H-Pile Heave: A Field Test, Demetrious C. Koutsoftis, GT Aug. 82, p999-1016.

Pile Group Analysis: A Study of Two Methods, Harry G. Poulos and Mark F. Randolph, GT March 83, p355-372.

Scale Effects of Ultimate Pile Capacity, George G. Meyerhof, GG June 83, p797-806.

Group Effect on Piles in a Liquefying Sand Deposit, Pedro A. De Alba, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p300-314. H-Pile Heave: A Field Test, Demetrious C. Koutsoftis,

GT Aug. 82, p999-1016.
Pile Settlement in Liquefying Sand Deposit, Pedro A.
De Alba, GT Sept. 83, p1165-1180.
Theoretical t-z Curves, Leland M. Kraft, Jr., Richard P. Ray and Takaaki Kagawa, GT Nov. 81, p1543-1561.

Torsional Behavior of Model Piles in Sand, R. N. Dutt and M. W. O'Neill, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p315-334.

Pile tests

Prie tests
Dynamic Testing and Analysis of Garoupa PGP-1
Piles, Rune Dahlberg and Sergio Matos, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), PS81-595.
Number of Tests versus Design Pile Capacity, Leslie G.

Jaeger and Baidar Bakht, GG June 83, p821-831. Pile Testing for Waterfront Structures, Arthur J. O'Brien and Douglas W. Lovell, (Proceedings of Ports 83, Kong Wong, ed., 1983), p495-511.

Axial Capacity of Steel Pipe Piles in Clay, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in

Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p370-388. Axial Capacity of Steel Pipe Piles in Sand, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p389-402.

Cyclic Axial Pile Reponse-Alternative Analyses, Harry G. Poulos, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE,

1983), p403-421.

Design of Single Pile Supports for Arctic Pipelines, H. W. K. Bird and K. J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p525-540.

Forces Induced by Breakers on Piles, Robert L. Wiegel,

(Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1699-1715.

General Effective Stress Method for Piles in Clay, Robert C. Kirby, Melvin I. Esrig and Benton S. Murphy, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p457-498.

Increase in SPT N-Values Due to Displacement Piles, Mysore S. Nataraja and Barbara E. Cook, GT Jan.

83, p108-113.

Lateral Dynamic Response of Constrained-Head Piles, Alvaro Velez, George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081.

Lateral Response of Fixed-Head Pile, Prabhakar J. Pise, GT Aug. 83, p1126-1131. Model Tests of Piles in Calcarecus Sands, J. F. Nauroy

and P. Le Tirant, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p356-369.

New Method for Dynamic Impedance of Piles, George Gazetas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p182-185.

Number of Tests versus Design Pile Capacity, Leslie G. Jaeger and Baidar Bakht, GG June 83, p821-831. Piles as Barriers for Elastic Waves, Javier Aviles and Francisco J. Sanchez-Sesma, GT Sept. 83, p1133-

Probabilistic Model of Wave Forces of Cylindrical Pile, Avinash M. Nafday and Hsiang Wang, WW May 83,

Proceedings of the Conference on Geotechnical Practice in Offshore Engineering, Stephen G. Wright, ed.,

1983, 630pp.
Side Load Transfer in Driven and Drilled Piles,
Michael W. O'Neill, GT Oct. 83, p1259-1266.

Site Specific Design of Laterally Loaded Piles, S. Kay H. J. Kolk and W. R. van Hooydonk, (Geotechnical H. J. Kolk and W. R. van Hooydonk, (Geolechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p557-580.
Stiffness Constants of Single Piles, Milos Novak and Bahaa El Sharmouby, GT July 83, p961-974.
Theoretical 1-z Curves, Leland M. Kraft, Jr., Richard P. Ray and Takaaki Kagawa, GT Nov. 81, p154-31561.
Torsional Behavior of Model Piles in Sand, R. N. Dutt

onstonal Benavior of Model Files in Sand, R. N. Dutt and M. W. O'Neill, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p315-334.

Uplift Resistance of Model Single Piles, K. P. R. Chaudhuri and M. V. Symons, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p335-355. Wave Forces on Piles of Variable Diameter, Bernard

LeMehaute, James Walker, John Headland and John Wang, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1800-1819.

Pipe design

Design of Energy-Efficient Pipe-Size Expansion, Garland E. Laliberte, Marvin N. Shearer and Marshall J. English, IR March 83, p13-28.

Optimal Diameter Selection for Pipe Networks, Ronald E. Featherstone and Karim K. El-Jumaily, HY Feb. 83, p221-234.

Pipe flow Air Voids at Downshaft-Tunnel Bends, Barry T.

Goldring, HY Feb. 83, p189-198.

Design of Energy-Efficient Pipe-Size Expansion, Garland E. Laliberte, Marvin N. Shearer and Marshall J.

English, IR March 83, p13-28.

Jet Injections for Optimum Mixing in Pipe Flow,
Stephen D. Fitzgerald and Edward R. Holley, HY

Oct. 81, p1179-1195.

Node Flow Analysis of Water Distribution Systems, Pramod R. Bhave, TE July 81, p457-467. Transient Cavitating Pipe Flow, Victor L. Streeter, HY

Nov. 83, p1407-1423.

Turbulent Flow over Undular Permeable Boundaries, R. T. Ho and L. W. Gelhar, HY May 83, p741-756.

Pipe jacking
Pipe-Jacking: State-of-the-Art in UK and Europe, T. E.
Clarkson and J. C. Thomson, TE Jan. 83, p57-72.

Pipe joints
Ductile Iron Pipe for Underwater Service, Ben C Helton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p347-356. Junction Stresses in Buried Jointed Pipelines, A. C.

Singhal and Chian-Lee Meng, TE May 83, p450-461. Pipe Restraints: Design Fallacies, Patrick J. Creegan,

TE Nov. 83, p840-852. Pipe-Jacking: State-of-the-Art in UK and Europe, T. E. Clarkson and J. C. Thomson, TE Jan. 83, p57-72.

Pipe lining Polyethylene Lining Renews Damaged Pipe, CE July

83, p24.
Polymer Modified Glass Fiber Reinforced Cement (PGRC) as a Protective Buffer Coating over Thin Film Anti-Corrosion Coatings, P. A. White, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p238-258.

Sewers: Repairing Beats Replacing, Allen Morrison, CE Sept. 83, p60-64.

Pipe tests

An Inside Look at the Pipeline, B. VerNooy and Scott Jordan, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p397-414.

Marine Pipeline Protection with Flexible Mattress, Alan D. Crowhurst, (Coastal Structures '83, J. R. Weggel, ed., 1983), p370-378.

ipeline bridges

Design for Pipeline Wind Vibration in Arctic Areas, Yee Kwok Lee, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p375-386.

Pipeline design

Arctic Pipeline River Crossings—Design Trends and Lessons Learned, Wim M. Veldman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p70-83

Finite Element Techniques for Pipelines Subjected to Extreme Loads, Dennis Row, Grawam H. Powell and Mary W. Goodson, (Pipelines in Adverse Environments

II, Mark Pickell, ed., 1983), p474-485.

Influence of Northern Pipelines on River Crossing Design, E. K. Yaremko and R. H. Cooper, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983). p49-63.

Kenai, Alaska, Outfall Crosses Tidal Flat, Loren D. Leman and Vince W. Rybel, (*Pipelines in Adverse Environments II*, Mark Pickell, ed., 1983), 973-578. Metropolitan Water District San Diego Pipeline 5, Gary

M. Snyder and William P. Lundy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Optimal Layout for Branching Distribution Networks, Pramod R. Bhave and Chan F. Lam, TE July 83,

Pipe Restraints: Design Fallacies, Patrick J. Creegan, TE Nov. 83, p840-852.

Pipeline River Crossings: Operational and Maintenance Aspects, Walfred E. Hensala, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p357-361. Pipeline Shore Approach: Analysis and Design, Henry H. Chang and Jorge Ford, TE Nov. 83, p853-867.

Sewer Force Mains for a Congested Suburban Area, C.

Peter Thomas, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p607-619. Soil-Pipe Interaction and Pipeline Design, Syed Ahmed, Ralph W. McMickle and Carl L. Brassow, TE Jan. 81, p45-58.

Specifying Offshore Pipe Installation: A Case Study, Leonard C. Dawson and Bruce A. Bennett, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Sugar Pine Pipeline Design and Construction, David A. Aitken, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p34-48. A Unified Geotechnical Engineering Systems Approach

Applied to Arctic Pipeline Planning and Design, Charles L. Vita and James W. Rooney, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Water Supply to Namaqualand, D. Stephenson and N. D. Graham, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p456-467.

Pipeline pigs
An Inside Look at the Pipeline, B. VerNooy and Scott Jordan, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p397-414.

Pipeline transportation

Pipeline River Crossings: Operational and Maintenance Aspects, Walfred E. Hensala, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p357-361.

Harmonic Analysis of Coupled Fluid and Piping, Frank J. Hatfield and David C. Wiggert, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p189-192.

Junction Stresses in Buried Jointed Pipelines, A. C Singhal and Chian-Lee Meng, TE May 83, p450-461. Lift and Drag on Stationary Capsule in Pipline, Henry Litt and Drag on Stationary Capsule in Pipline, Henry Liu and Harald R. Graze, HY Jan. 83, p28-47. The Microcomputer and Pipeline Transients, E. Ben-jamin Wylie, HY Dec. 83, p1723-1739. Moment Distribution Factors for Pipe Encasements, George P. Martin, ST July 81, p1355-1359. Mudslide Effects on Offshore Pipelines, Richard C. Swanson and Warren T. Jones, TE Nov. 82, p585-

The Need for Guidelines for the Joint Occupancy of Utility and Pipeline Corridors, Walfred E. Hensala, (Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p415-419. Optimization of Gravity-Fed Water Distribution Systems: Application, Pramod R. Bhave, EE Apr. 83, p383-395.

pb85-395.

Pipe Whip Analysis Using a Rigid Plastic Pipe Model,
M. B. Atalay, (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al, eds., 1983), p718-721.

Pipeline Stability Under Finite-Amplitude Waves,
Min-Chih Huang and Robert T. Hudspeth, WW May

82, p125-145.

Protection of Pipelines Subject to Surcharge Loads, Eugene M. Kovach, TE Nov. 82, p540-549. Sewers: Repairing Beats Replacing, Allen Morrison, CE

Sept. 83, p60-64. Soil-Pipe Interaction and Pipeline Design, Syed Ahmed, Ralph W. McMickle and Carl L. Brassow, TE Jan. 81, p45-58. Stress Analysis of Buried Pipelines, Joseph W. Cardinal

and O. Hal Burnside, (Proceedings of the Eighth

and O. Hall Buttistue, (Proceedings of the English Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p697-710. Technique for Calibrating Network Models, Thomas M. Walski, WR Oct. 83, p360-372. Twenty-Five Years with the Pipeline Division, Francis

Stastny, TE Jan. 83, p148-158.

Pipelines bridges Inspection of the Tanana River Pipeline Bridge, Alan Christopherson, William Swigart and Michael Fries, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p362-374.

Pipes
Polyphosphate Additions for Corrosion Control in Water Distribution Systems, Shankha K. Banerji, John T. O'Connor and David J. S. Huang, (National Conference on Environmental Engineering, Allen Stationard and March

Medine, et al, eds., 1983), p97-109.

Three-Dimensional Non-Linear Analysis, Joaquin Marti, Gurdip S. Kalsi and Naval K. Prinja, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p372-375.

Piping systems
Graphic Input Improves Hydraulic Network Analysis,
William S. Alper, T. David Pay and Marshall H.
Smith, (Emerging Energy/Environmental Trends and
the Engineer, Ronald D. Neufeld, et al, eds., 1983), p46-49.

Harmonic Analysis of Coupled Fluid and Piping, Frank J. Hatfield and David C. Wiggert, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Interactive Graphics for Design of Piping Systems, John F. Fleming, Theodore J. Batt, Thomas E. Campbell, Gary R. Ellis and Wayne R. Morrison, (*Proceedings*

Gary R. Ellis and Wayne R. Morrison, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p580-593. Random Piping Responses to Condensation Oscillation Loads, T. Y. Shih and P. C. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 206-206. p205-208.

Loaded Areas on Cohesive Slopes, Amr S. Azzouz and Mohsen M. Baligh, GT May 83, p724-729. Static and Transient Viscoplastic Analysis of a Tunnel,

David E. Schmitz and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p691-695.

Plane strains

Plane Strain Constitutive Equations for Soils, Bobby O. Hardin, GT March 83, p388-407.

Scattering of Elastic Waves by Sub-Surface Topogra-phies, R. D. Steinberg, R. J. Brind and J. D. Achenbach, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p411-414.

Civil Engineering Planning Guide: Part I—Framework for Planning, Task Committee to Prepare a Planning Guide of the Urban Planning and Development Division, (Richard S. Howe, chmn.), UP May 82,

p241-253.

Planning and Organization of Research in Building, A. Warszawski, CO Sept. 83, p261-275.

Reconstruction of a Grain Loading Jetty with Mini-

mum Downtime, Kurt Helin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p704-716.

Regional Port Plans: Government without Regulations, Robert H. Wardwell, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p336-348.

Regulation and Planning for Coastal Access, Laurie J.

Flowers, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p112-121.

Strategic Planning for a National Waterways System, Arlene L. Dietz, WR Jan. 83, pl-12. Trident Naval Submarine Base: Planning and Design,

John M. Lowe, Jr., UP May 83, p7-20. Variations in Planning Concepts for a Nigerian Port, David H. Killoy, Klaus A. Schoellner and Peter W. Ediale, (Proceedings of Ports 83, Kong Wong, ed., 1983), p84-96.

Plastic analysis

Plastic Analysis of Reinforced Concrete Rectangular Thick Plate under Impulsive Loading, Cao Zhiyuan and Yang Shengtian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1036-1039.

A Rapid Method of Computing Geometric Relations in Structural Analysis, CE June 83, p51-53. Ultimate Load Testing of Space Trusses, Lewis C. Schmidt, Peter R. Morgan and Ariel Hanaor, ST June 82, 21224 1232.

June 82, p1324-1335.

Yield Surface for Thin Bars with Warping Restraint, Raymond P. Daddazio, Maciej P. Bieniek and Frank L. DiMaggio, EM Apr. 83, p450-465.

Plastic desig

Autostress Design of Steel Bridges, Geerhard Haaijer, Phillip S. Carskaddan and Michael A. Grubb, ST

Jan. 83, p188-199.
Minimum Weight Plastic Design of Continuous Beams,
Yuhshi Fukumoto and Mitsuru Ito, ST July 81, p1263-1277.

Post-Buckling Instability of Steel Beam-Columns, Masayoshi Nakashima, Takeshi Nakamura and Minoru Wakabayashi, ST June 83, p1414-1430.

Plastic hinges
Double Chord RHS Trusses: Analytical Model, Farooque A. Mirza and Robert M. Korol, ST Dec. 83, p2812-2828.

Large Deformation Analysis of Elastic-Plastic Frames,

Aslam Kassimali, ST Aug. 83, p1869-1886. Shear Deformation in Seismic Frame Structures, Richard C. Fenwick, ST Apr. 83, p965-976.

Geofabric Stabilization of Soft Backfill Materials for Plastic Sewer Pipe Installation, Jey K. Jeyapalan, (Pipelines in Adverse Environments II, Mark Pickell, 1983), p188-198.

Stiff Soils-An Adverse Environment for Stiffness Pipes, K. K. Kienow and R. C. Prevost, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p431-455.

Plastic properties
Inelastic Dynamic Response of Cable Networks,
Manolis Papadrakakis, ST May 83, p1139-1154.

A Linearized Yield Surface for Tension-Weak Materials, Frank E. Weisgerber, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p964-967.

Piecewise Linear Yield Criteria in Invariant Form, Robert M. Haythornthwaite, EM Aug. 83, p1016-

Three-Dimensional Behavior of Sand with Anistropic Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct.

83, p1313-1328. Yield Surface of Orthotropic Plates, Lembit M. Kutt and Maciej P. Bieniek, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p660-663.

Plastic tubing Buckling of Plastic Tubes under Cyclic Bending, Stelios Kyriakides and Ping-Kay Shaw, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p664-667.

Drain Tube Opening Effects on Drain Inflow, Fawzi S. Mohammad and R. Wayne Skaggs, IR Dec. 83,

p393-404.

Plasticity

Application of a Plasticity Model to Concrete, S. M. Babook and H. L. Schreyer, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p960-963.

Collapse Loads of Laced Columns, Sven Eilif Svensson

and Jan Kragerup, ST June 82, p1367-1384.
Computational Aspects of Strain-Space Plasticity,
Wilfred D. Iwan and Paul J. Yoder, EM Feb. 83, p231-243.

Distortional Hardening Rules for Metal Plasticity, Miguel Ortiz and Egor P. Popov, EM Aug. 83,

p1042-1057.

Endochronic Description of Sand Response to Static Loading, Han C. Wu and T. P. Wang, EM Aug. 83, p970-989.

Implementation of a General Plasticity Model, M. O. Faruque and C. S. Desai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p755-758.

Monotonic and Cyclic Constitutive Law for Concrete, Michael N. Fardis, Bunu Alibe and John L. Tas-soulas, EM Apr. 83, p516-536.

On the Loading Functions in Concrete Plasticity, Y. Takahashi, E. C. Ting and A. H. Marchertas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p751-754.

Plastic Shear Hinges in Steel Frames, Daniel N.

Manheim and Egor P. Popov, ST Oct. 83, p2404-

Simple Plasticity Model of Two-Surface Type, T. S. Tseng and G. C. Lee, EM June 83, p795-810.

Plasticity index

Critical Reappraisal of Plasticity Index of Soils, T. S. Nagaraj and M. S. Jayadeva, GT July 83, p994-1000.

Plate girders

Collapse of Plate Girders under Edge Loading, Terence M. Roberts and Chooi K. Chong, ST Aug. 81, p1503-1509.

Statistical Study on Compression Flange Plates, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, p404-

Strength and Serviceability of Steel Girder Webs, Nigel Cooke, Warren R. Walpole, Peter J. Moss, D. Wayne Langdon and Mervyn H. Harvey, ST March 83, p785-807.

TheoreticaL Model for Collapse of Shear Webs, Cedric Marsh, EM Oct. 82, p819-832.

Compression of "Free-Ends" During Triaxial Testing, Robert W. Sarsby, Nikolas Kalteziotis and Essam H. Haddad, GT Jan. 82, p83-107.

Bending of Circular Plate on Elastic Foundation, K. Kamal and S. Durvasula, EM Oct. 83, p1293-1298. Buckling Analysis of Stiffened Plates and Shells, Abdur Razzaque and Michael D. Mathers, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p1083-1086. Circular Plates of Rectangular Orthotropy, Chai Hong Yoo and Jao-Shiun Kao, (Recent Advances in Engi-

neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p423-426. Cold-Formed Steel Panels with Riveted Connections, Muzaffer Yener and Richard White, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p565-568.

Contact between Plates and Unilateral Supports, J. P. Dempsey, L. M. Keer and N. B. Patel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen. et al. eds.. 1983), p419-422.

A Direct Automated Simulation of Plates Resting on Foundations, N. J. Salamon, F. F. Mahmoud and Y. -S. Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p443-446.

Effect of Peening on Fatigue Life of Welded Details,
Hans Hausammann, John W. Fisher and Ben T. Yen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p70-83.

Eigenvalues of Structures Carrying Sheets of Liquid, Werner Soedel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p.201-204. Equilibrium Method of Finite Strip for Plates with Intermediate Supports, Zhao Zu-Wu and Ye Xiang,

(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p523-526.

Geometrical Non-Linear Bending of Plates and Shells

with Consideration of Loading History, Boris Krayterman and Gajanan M. Sabnis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p714-717.

Hybrid-Stress Models for Plate Analysis, Robert L. Spilker, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p834.

Impact Response of Buckled Composite Laminates, J. K. Chen and C. T. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Description 1985). Engineering Practice, W. F. Chen, et al, eds., 1983), p515-518.

Inelastic Buckling of Short Plate Stiffeners in Beam Column Connections, H. A. El-Ghazaly and A. N. Sherbourne, (Recent Advances in Engineering Me-Sherbourne, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1095-1100.

Inelastic Buckling Using the Finite Strip Method, N. S.

Mahmoud, D. A. Nethercot and R. J. Plank, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p1101-1104.

A New Mixed-Hybrid Finite Element Model for Static and Dynamic Analysis of Thin Plates in Bending, Dimitris Karamanlidi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), neering F

Plastic Analysis of Reinforced Concrete Rectangular Thick Plate under Impulsive Loading, Cao Zhiyuan and Yang Shengtian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1036-1039. Plate on Poroelastic Half Space Subjected to Seismic

Waves, David G. Kurtanich and Paul Christiano, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p174-177. Quarter Plane Problems for Fibre Reinforced Elastic Plates, A. P. S. Selvadurai and N. Moutafis, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p759-762.

Ribbed Plates on Non-Linear Foundations, Chao Shih

Li and Tseng Huang, (Recent Advances in Engineering Mechanics and Their Impacts on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p431-434. Spline Function Method in Vibration Problems, Luo

Songfa, Zhang Daming and Wu Zhangzhu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p255-258.
Tests of R/C Folded Plates Shell with Edge Beams,

Musa R. Resheidat, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p553-556. Thermal Effects on Vibration of Elliptical Plates,

Muthukrishnan Sathyamoorthy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p251-254.

Toward Fatigue-Proofing Cover Plate Ends, Pedro Albrecht, Fatteh Wattar and Adnan Sahli, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p24-44.

Plates, structural

Boundary Element Method Applied to Photoelastic Analysis, Yasushi Mitsui and Shun-ya Yoshida, EM

Apr. 83, p619-631. Circular Voided Concrete Slab Stiffnesses, G. Elliott and L. A. Clark, ST Nov. 82, p2379-2393.

Concrete Plate Reinforcement: Frictional Limit Design, Zdenek P. Bazant and Chuan Lin, ST Nov. 82, p2443-2459.

Frequencies of Continuous Plates by Moment-Ratio Method, Bosheng Qin and Chuan C. Feng, ST Dec. 83, p2905-2921.

Intensity of Corner and Stress Concentration Factor, Norio Hasebe and Jiro lida, EM Feb. 83, p346-356. Lateral-Load Tests of R/C Slab-Column Connections, Denby G. Morrison, Ikuo Hirasawa and Mete A. Sozen, ST Nov. 83, p2698-2714. Mindlin Plate Analysis by Segmentation Method, Tarun Kant and Ernest Hinton, EM Apr. 83,

p537-556.

Moments in Edge Panels of Flat Plate Floors, A. S. Hall

Moments in Edge Panels of Flat Plate Floors, A. S. Hall and B. V. Rangan, ST Nov. 83, p2638-2650.
New Subgrade Model Applied to Mat Foundations, John S. Horvath, GT Dec. 83, p1657-1587.
Plates of Varying Thickness with Four Simply Supported Edges, Fan Jia-rang, EM Feb. 82, p167-173.
Stability Investigations of Variable Core Sandwich, Piotr A. Wrzecioniarz, EM Dec. 83, p1460-1471.
Technique for Estimating Natural Frequencies, Robert Schmidt, EM Apr. 83, p654-657.

Mixing Characteristics of Negatively Buoyant Swirling Plume, Masamichi Inoue and Tsung-Chow Su, HY July 83, p1049-1056.

Plane Turbulent Plumes in Coflowing Streams, Nallamuthu Rajaratnam and Pande B. B. Lal, EM Oct. 83,

p1299-1303.

Plume Dilution for Diffusers with Multiport Risers, Morton S. Isaacson, Robert C. Y. Koh and Norman H. Brooks, HY Feb. 83, p199-220.

Wastewater Field Thickness and Initial Dilution, Robert C. Y. Koh, HY Sept. 83, p1232-1240.

Ice-Sheet Melting and Sea Level, R. H. Thomas, D. E. Thompson, R. A. Bindschadler and D. R. MacAyeal, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2846-2857.

Mutual Interference Drag on Signs and Luminaires, James F. Marchman, III. and Todd D. Werme, ST Oct. 82, p2235-2244.

Solving Ill-Structured Sociotechnical Problems, Richard H. McCuen, El Apr. 83, p113-126.

Political aspects

Involvement of Engineers in Public Affairs, Milton Mortman, El Oct. 82, p251-262.

Political factors

Correlates of Community Development, Albert Schaffer and Ruth C. Schaffer, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p45-55.

The Intergovernmental Politics of Coastal Planning, Lowdon Wingo and James A. Fawcett, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1651-1665.

Ames Test of Ferrate Treated Water, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, Jr., EE Oct. 83, p1159-1167

Comparison of Basin Performance Modeling Technique, Gary F. Goforth, James P. Heaney and Wayne C. Huber, EE Oct. 83, p1082-1098. Desorption Kinetics in Modeling of Toxic Chemicals, Peter R. Jaffe and Raymond A. Ferrara, EE Aug. 83, p859-867. Pollutant Loading Model for Highway Runoff, Tai Wik Chui. Brian W. Mar and Richard R. Horner, EE Dec.

82, p1193-1210.

Priority Pollutants in the Mississippi River Near St. Louis, David A. Blasiar, Bernard A. Rains and David

Louis, David A. Blasiar, Bernard Å. Rains and David R. Mahaffay, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p589.

Removal of Organic Priority Pollutants by Oxidation-Coagulation, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, EE Feb. 83, p36-46.

Residence Time: Application to Small Boat Basins, Jacobus van de Kreeke, WW Nov. 83, p416-428.

Sampling Strategies for Mass-Discharge Estimation, Byron Bodo and T. E. Unny, EE Aug. 83, p812-829.

Sampling Strategy for River Pollutant Transport, Stephen M. Yaksich and Frank H. Verhoff, EE Feb. 83, p219-231.

83, p219-231

Screening for Organic Toxicants in Aquatic Environments, William B. Mills and Donald B. Porcella, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p327-334.

Vertical Migration of Organic Pollutants during Infil-tration, Randall J. Charbeneau and Howard M. Liljestrand, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p48-53.

Deflections of Jets by Weak Crossflows, Peter M. Steffler and Nallamuthu Rajaratnam, EM Oct. 83,

p1303-1307.

Derivative Approximations in the Two-Point Fourth-Order Method for Pollutant Transport, Forrest M. Holly, Jr. and Toshimitsu Komatsu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Environments of Special Significance, Jonathan E. Amson, (Coastal Zone '83, Orville T. Magoon, et al,

Amson, (Coastal Zone 83, OrVille 1. Magoon, et al, eds., 1983), p.2241-2249.
 Longitudinal Dispersion in Natural Streams, Tom Beer and Peter C. Young, EF Oct. 83, p1049-1067.
 Pollution Routing in Streams, Antonis D. Koussis, Melio A Saenz and Ioannis G. Tollis, HY Dec. 83,

p1636-1651.

Unified Theory for Flood and Pollution Routing, Antonis D. Koussis, HY Dec. 83, p1652-1664.

Pollution Abatement for Barge Cleaning Operations, Charles Lamoureux, (Proceedings of Ports 83, Kong Wong, ed., 1983), p15-21.

Pollution control

Automatic Control Strategies for Combined Sewer Systems, Markos Papageorgiou, EE Dec. 83, p1385-

Prevention of Acid Drainage from Stored Coal, Harvey Olem, Tracey L. Bell and Jeffery J. Longaker, EY June 83, p103-112.

Stormwater Pollution Control: Best Management Practices, E. John Finnemore, EE Oct. 82, p835-851. Stormwater Pollution Control: Structural Measures, E. John Finnemore, EE Aug. 82, p706-721.

The Water Bubble Concept: Its Suitability to Coastal Embayments, Carolyn T. Hunsaker, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p15-31.

Polymer Dosage Control in Dissolved Air Flotation, Ronald Gehr and J. Glynn Henry, EE Apr. 83, p448-465.

Ponding Instability of Inflated Imperfect Membranes,

Goodarz Ahmadi and Peter G. Glockner, ST Feb. 83, p297-313.

Aquaculture Theory and Practice: Hercules, California, Glen T. Daigger and David L. Richardson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p66-72.
Cooling Water Facilities at a Nuclear Station, William

L. Hurst, Bomi M. Ghadiali and Joseph S. Kanovich,

EY March 83, p1-6.

Design Capacity of Slurried Mineral Waste Ponds, W.

Design Capacity of Sturried Mineral Waste Fonds, W. David Carrier, III. Leslie G. Bromwell and Frank Somogyi, GT May 83, p699-716. Evaporation Reduction: Summary of Long-Term Tank Studies, Keith R. Cooley, IR March 83, p89-98. Lining a Pond to Contain Uranium Tailings, Richard

Baldwin, CE Jan. 83, p77-79.

Pools
Bed Material Sorting in Pools and Riffles, Nani G.
Bhowmik and Misganaw Demissie, HY Oct. 82,

Pore pressure
1-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-

Group Effect on Piles in a Liquefying Sand Deposit, Pedro A. De Alba, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p300-314.

Initial Pore Pressure from Vertical Surface Loads, Jacobo Bielak, GT Sept. 82, p1167-1171.

Pore Pressure Development during Cyclic Loading, Ching S. Chang, Ching L. Kuo and Ernest T. Selig, GT Jan. 83, p103-107.

Probabilistic Pore Presure Analysis for Seismic Loading, Jean-Lou Chameau and G. Wayne Clough, GT Apr. 83, p507-524.

Shear Strength of Clay in Centrifuge Models, Michael C. R. Davies and Richard H. G. Parry, GT Oct. 83, p1331-1337.

Wave-Induced Seepage Effects on a Buried Pipeline, Peter L. Monkmeyer, Pierfrancesco Mantovani and Hugues Vincent, (Coastal Structures '83, J. R. Weggel, ed., 1983), p519-531.

Pore size distribution

Absorption in Manufactured Soil Aggregates, Alamgir M. Hogue and Jose G. Cabrera, TE Nov. 83, p800-814.

Pore water pressure Centrifugal Modeling of Soil Liquefaction Susceptibility, Kandiah Arulanandan, A. Anandarajah and A. Abghari, GT March 83, p281-300.

Large Breakwater Toe Failures, A. W. Sam Smith and

Large Breakwater 10e Failures, A. W. Sam Smith and Angus D. Gordon, WW May 83, p253-255.

Ocean Wave-Induced Liquefaction Analysis, M. S. Nataraja and H. S. Gill, GT Apr. 83, p573-590.

Porewater Pressures Due to Overburden Removal, Sivajogi D. Koppula, GT Aug. 83, p1099-1110.

Probabilistic Updating of Pore Pressure Fields, Waldemar Hachich and Erik H. Vanmarcke, GT March 83, p373-387.

Reinforced Clay Subject to Undrained Triaxal Loading, Terence S. Ingold, GT May 83, p738-744. Response of Seafloor to Ocean Waves, W. D. Liam

Finn, R. Siddharthan and G. R. Martin, GT Apr. 83, p556-572

Seismic Safety of Soil Deposits Against Liquefaction, J. E. A. Pires, Y. K. Wen and A. H. -S. Ang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p871-874.

Settlement-Time Predictions in Preloading, Aris C. Stamatopoulos and Panaghiotis C. Kotzias, GG June

83, p807-820.

Wave-Induced Pore Pressures in Submerged Sand Layer, Yuet Tsui and Steven C. Helfrich, GT Apr. 83, p603-618.

Green-Ampt Infiltration Parameters from Soils Data,

Walter J. Rawls, Donald L. Brakensiek and Norman Miller, HY Jan. 83, p62-70.

Analysis of Three-Dimensional Flows Around Kinks in nauysis of Inree-Dimensional Flows Around Kinks in Zoned and Leaky Porous Media, O. Lafe, A. Adenekan and H. Johnson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1170-1173.

Exit Gradient in Anisotropic Porous Medium, Govinda Chandra Mishra and A. Siva Reddy, HY June 83,

p897-904.

Finite Element Model of Fracture Flow and Transport. Peter S. Huyakorn, James W. Mercer and Barry H. Lester, (Recent Advances in Engineering Mechan and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1166-1169.

Porous media flow

A Model for the Bacterial Contamination of Ground-water, M. Yavuz Corapcioglu and A. Haridas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p60-65.
Two-Dimensional Dispersion from Strip Sources, Vedat

Batu, HY June 83, p827-841.

Portland cements
Effect of PCC Shoulders on Adjacent Concrete Lanes, Jihad S. Sawan, TE March 83, p312-324.

The Alaska Coastal Data Collection Program, Orson P. Smith, David L. Kriebel and James T. Bales, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1153-1167.

Corps of Engineers Navigation Structure Maintenance, John R. Mikel, (Proceedings of Ports 83, Kong Wong, ed., 1983), p527-531.

Developing a Risk Management Program for Ports, Suzanne Rogalin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p319-335.

Magoon, et al., eus., 1903, polysols.

Discussion of the San Francisco Bay Area Seaport Plan,
Dennis R. Fay, (Coastal Zone '83, Orville T. Magoon,
et al, eds., 1983), p273-286.

Environmental Protection Program for the Expansion of the Port of Miami, Florida, Armando I. Perez, Luis Ajamil, Carmen Lunetta, Marilyn Reed and Nancy Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1090-1104.

Important Aspects of Port/Railroad Interface, Winn B. Frank, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p299-318.

Integrated Management of San Diego Bay: A Socio-Ecological Challenge, Tomas E. Firle, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1714-1733. Navigation & Dredging: Port of New York & New Jersey, Linda O'Leary, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p349-360.

Operational Procedures Richards Bay Harbour, J. A. Zwamborn and P. J. Cox, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2700-2722. Optimization of Channel Maintenance Expenses, Ana-

objumum Number and Capacity of Seaport Berths, Michihiko Noritake and Sakuo Kimura, WW Aug.

83, p323-339.

Ports '83, Brenton T. Morse, Jr., CE April 83, p28.

Proceedings of Ports 83, Kong Wong, ed., 1983, 832pp. Reconstruction vs. New Construction, Stanley I Maisel and William J. Funge, (Proceedings of Ports 83, Kong Wong, ed., 1983), p42-50.

Regional Port Plans: Government without Regulations, Robert H. Wardwell, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p336-348.

Study of Ship's Track and Motions at Port Taranaki, G.

Greenstreet, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2763-2772.

Variations in Planning Concepts for a Nigerian Port, David H. Killoy, Klaus A. Schoellner and Peter W. Ediale, (Proceedings of Ports 83, Kong Wong, ed., 1982), 444 66

1983), p84-96.

Positioning Inertial Survey Systems, Edward F. Roof, SU Aug. 83, p116-135.

Post tensioning
Performance of Strengthened Highway Bridges, Wal-lace W., Sanders, Jr. and F. Wayne Klaiber, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983). p174-192

Protecting Post-Tensioning Tendons in Concrete Structures, Morris Schupack, CE Dec. 82, p43-45.

tures, Morris Schupack, CE Dec. 82, p43-43.

Postbuckling behavior
Imperfection Sensitivity of Circular Arches, Iradj
Tadjbakhsh, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,
W. F. Chen, et al., eds., 1983), p1109-1112.
Inelastic Post-Buckling Analysis of Trusses, Manolis
Papadrakakis, ST Sept. 83, p2129-2147.
Non-Linear Analysis of Thin-Walled Beams, H. P. Lee,
P. J. Harris and C. T. Thomas Hsu, (Proceedings of
the Fighth Conference on Fleetonic Communication

James K. Nelson, Jr., ed., 1983), p404-415.

Behavior, Alexander Chajes, ST Oct. 83, p2450-2462.

Post-Buckling Behavior of Guyed Towers, George A. Costello and James W. Phillips, ST June 83, p1450-

Post-Buckling Equilibrium of Hyperstatic Lattices, S. J. Britvec and M. D. Davister, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1075-1078.

Post-Buckling Instability of Steel Beam-Columns Masayoshi Nakashima, Takeshi Nakamura and Minoru Wakabayashi, ST June 83, p1414-1430.

Potable water
Denver's Potable Water Reuse Demonstration Project,
Wwork (National William C. Lauer and Stephen W. Work, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p290-295.

Field Evaluation of Air-Stripping Processes for Organic Contaminant Removal from Ground Water, Walter A. Feige and Dominick D. Ruggiero, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p32-33.

Ion Exchange and Membrane Processes for Nitrate

Removal from Water, Dennis Clifford and Chieh-Chien Lin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p14-23. No Relation Found Between A/C Pipe and Cancer, CE

Oct. 83, p22. Pilot Plant Study of Treatment Options for Producing Potable Water at Thornton, Colorado, Ben W. Lykins, Jr. and Mark A. Speed, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p287-289.

Trichloroethylene Removal by Packed Column Air Stripping: Field Verified Design Procedure, Michael D. Cummins and James J. Westrick, (National Conference on Environmental Engineering, Allen

Conference on Environmental Engineering, Alien Medine, et al, eds., 1983), p442-449.

Water Conserv I: No More Discharge to Surface Water, Walter R. Fritz, John J. Kincaid, Kermit L. Prime and Michael J. Hanlon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 2020. 1983), p58-65.

Water Supply to Namaqualand, D. Stephenson and N. D. Graham, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p456-467.

Potomac River

Managing Potomac Water Quality: Evolving Approaches, Austan S. Librach, Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N. Magill, EE June 82, p562-577.

Power plants
Economic Dispatch for Flue Gas Desulfurization,

Long D. Keenan, EV Ronnie Leung-nee Tong and John D. Keenan, EY March 83, p17-34.

Power spectral density

Calculation of Power Spectra from Response Spectra, Dieter D. Pfaffinger, EM Feb. 83, p357-372

Dieter D. Pfaffinger, EM Feb. 83, p357-372.
Ground Strain Estimation for Seismic Risk Analysis,
Masanobu Shinozuka, Hiroyuki Kameda and
Takeshi Koike, EM Feb. 83, p175-191.
Parametric Spectral Analysis, A. Ramachandra Rao
and Ali Durgunoglu, (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al, eds., 1983), p891-894.
Spectra of Road Surface Roughness on Bridges,
Hideyuki Honda, Yasuo Kajikawa and Tameo
Kobori, ST Sept. 82, p1956-1966.

Powerplant design Reconversion to Coal Firing at Crystal River, Robert P. McBean and Ronald J. Ott, EY Nov. 82, p155-168.

Innovations Cut Costs of a Power Plant's Water System, R. Paul Narong and Joseph Funston, CE July 83, p46-49.

Lake Temperature Dynamics in Hybrid Cooling Sys-tem, T. W. Sturm, J. M. Fulford and K. J. Fay, EE

June 83, p668-684.

Reconversion to Coal Firing at Crystal River, Robert P. McBean and Ronald J. Ott, EY Nov. 32, p155-168. Resident Engineering in Power Plant Construction, Clyde B. Tatum and Thomas E. Cottrell, CO June 33, p224-232

Settling of Coal Ashes, Byung R. Kim, T. -Y. J. Chu and R. J. Ruane, EE Feb. 83, p157-173.

Simulation and Analysis of Cooling Lake Ecosystems: Impacts of Power Plant Operations, D. B. Porcella, G. L. Bowie, T. M. Grieb and R. K. Kawaratani, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p797-804.

Space and Schedule Considerations for Backfitting SO, Removal Systems, Wayne A. Rauch, EY Sept. 83,

Transportation Issues Facing Coal Power Plant Development, G. John Kurgan, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p24-28.

Water Conservation and Reuse at Coal-Fired Power Plants, Frank L. Shorney, WR Oct. 83, p345-359.

Identity and Character of Iron Precipitates, R. Bruce Robinson, Turgut Demirel and E. Robert Baumann, EE Dec. 81, p1211-1227.

Precipitation, atmospheric
Acid Rain Model: Canopy Module, Carl W. Chen,
Robert J. M. Hudson, Steven A. Gherini, J. David Dean and Robert A. Goldstein, EE June 83, p585-603.

Precipitation in Southern Nevada, Richard H. French, HY July 83, p1023-1036.

Precipitation rate
Revised Rainfall Frequency Analysis for Houston,
Tracey C. Bouvette, Jeff L. Lambert and Philip B.
Bedient, HY April 82, p515-528.
Simplified Method for Rainfall Intensities, George H.

Hargreaves, IR Sept. 81, p281-288.

Predictions

Examples of Storm Surge Prediction Models, P. Lencioni, J. P. Benque and Y. Coeffe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p823-831.

Increase in SPT N-Values Due to Displacement Piles, Mysore S. Nataraja and Barbara E. Cook, GT Jan.

83, p108-113.

Prefabrication The Evolution of Prefabrication in Marine Structures, Charles W. Nelson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p471-479.

'Instant Jail' Reduces On-Site Construction, CE July 83,

p16.

Pre-Engineered Metal Buildings: The Story Behind Their Rapid Growth, Donald H. Pratt, CE Apr. 83, p52-56.

Prefab Hydro Plant Reduces On-Site Work, CE Dec. 83, p12.

Sanwich-Panel Assemblies: Analytical Model, S. Rizzo and Paul Fazio, ST Nov. 83, p2715-2732.

Preliminary Investigations
Preliminary Design Services—Not Simply a Proposal,
Michael C. Loulakis, CE June 83, p30.

Lift and Drag on Stationary Capsule in Pipline, Henry Liu and Harald R. Graze, HY Jan. 83, p28-47. Secondary Pressures of Waves Breaking on Seawall, M. Salih Kirkgöz, WW Nov. 83, p487-490. Wall Stress Distribution Due to Jet Impingement.

Mohan D. Deshpande and Ramesh N. Vaishnav, EM

Apr. 83, p479-493.

Pressure gages Second Order Theory of Manometer Wave Measurement, F. Biesel, (Proceedings of Coastal Engineering 82, Vol. I. Billy L. Edge, ed., 1983), p129-135.

Pressurized flow

Surging in Combined Free Surface-Pressurized Systems, Mark J. Sundquist and Constantine N. Papadakis, TE March 83, p232-245.
Transient Mixed-Flow Models for Storm Sewers, C. S.

Song, James A. Cardle and Kim Sau Leung, HY Nov. 83, p1487-1504.

Prestressed concrete beams

Shearing Stress due to Prestress in Variable Depth Beam, Shih Toh Chang, ST July 82, p1648-1653.

Magnel Diagrams for Prestressed Concrete Beams, Natarajan Krishnamurthy, ST Dec. 83, p2761-2769. Settlement-Time Predictions in Preloading, Aris C.

Stamatopoulos and Panaghiotis C. Kotzias, GG June 83, p807-820.

Steel Beats Concrete for Idaho Bridge, Charles Seim,

CE Aug. 83, p28-32.
Tensegric Shell Behavior, Oren Vilnay and Siong S.
Soh, ST Aug. 82, p1831-1845.

Is There a Bid for Services in Your Future? Rita Robison, CE Sept. 83, p40-44.

Turbulent Flow Past a Two Dimensional Prism, G. Bergeles and N. Athanassiadis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1194-1197

Probabilistic methods
Deterministic and Probabilistic Perspectives of the PMF, Anand Prakash, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p535-540. Joint Probability Method in Barrier Island Systems

Richard A. Schmalz, Jr., WW May 83, p222-235.
Probabilistic Design of Dunes, Jan van de Graaff, (Coastal Structures '83, J. R. Weggel, ed., 1983),

p820-831.

Probabilistic Failure of Blast Excited Structures, Dennis Morrison and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p907-910.

Probabilistic Soil Exploration: Case History, Tien H.

Wu and Kinfun Wong, GT Dec. 81, p1693-1711.
Recent Advances in Engineering Mechanics and Their
Impact on Civil Engineering Practice, W. F. Chen,
ed. and A. D. M. Lewis, ed., 1983, 1326pp.

Probabilistic models
A Practical Probabilistic Model, Achintya Haldar and Bilal M. Ayyub, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), 9948-951. Probabilistic Model of Wave Forces of Cylindrical Pile,

Avinash M. Nafday and Hsiang Wang, WW May 83. p147-163.

Probabilistic Pore Presure Analysis for Seismic Loading, Jean-Lou Chameau and G. Wayne Clough, GT Apr. 83, p507-524.

Probability

Updating Parameters with Fuzzy Entropies, Tai-Yan

Kam and Colin B. Brown, EM Dec. 83, p1334-1434.

Probability density functions
Probability Density Function of Wave Heights off the Western Coast of Taiwan, Frederick L. W. Tang and Jea-Tzyy Juang, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p342-356.

Probability distribution Estimating Log Pearson Parameters by Mixed Moments, Donthamsetti Veerabhadra Rao, HY Aug. 83,

p1118-1132.

Generalized Wind Speed Probability Distribution,
Karen C. Chou and Ross B. Corotis, EM Feb. 83,

Probability Distribution of Typical Wind Speeds, Karen C. Chou and Ross B. Corotis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p883-886.

Three-Parameter Probability Distribution of Best Hydrologic Bounds, Donthamsetti Veerabhadra Rao, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p486-491.

Probability distribution functions
Fitting Procedures for the Log-Boughton Distribution,
Walter C. Boughton and Edward D. Shirley, HY Apr.

Roof Snow Loads for Structural Design, Michael J. O'Rourke and Ulrich Stiefel, ST July 83, p1527-1537.

Approximate Reliability Analysis, Mircea Grigoriu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p867-870.

Circular First-Passage Due to Nonstationary Force, Polychronis Spanos and George Solomos, (Recent Advances in Engineering Mechanics and Their Impact

on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p863-866. Concomitant Strength Relationship for Lumber, Robert

J. Tichy, ST Aug. 83, p1854-1868.
Estimating Log Pearson Parameters by Mixed Moments, Donthamsetti Veerabhadra Rao, HY Aug. 83, p1118-1132.

Fundamental Postulate in Structural Safety, Ove

Pundamental Postulate in Structural Safety, Ove Ditleven, EM Aug. 83, p1096-1102. Probabilistic Estimating: Mathematics and Applica-tions, James E. Diekmann, CO Sept. 83, p297-308. Probabilistic Load Duration Model for Live Loads, Ross B. Corotis and Wen-Yang Tsay, ST Apr. 83, p859-874.

Probabilistic Optimum Base Isolation of Structures, Michalakis C. Constantinou and Iradj Tadjbakhsh,

ST March 83, p676-689.

Probabilistic Study on Failure of Large Dams, Luis Valadares Tavares and Joaquim Laginha Serafim,

GT Nov. 83, p1483-1486.

Probability Based Load Criteria: Assessment of Current Design Practice, Theodore V. Galambos, Bruce Ellingwood, James G. MacGregor and C. Allin Cornell, ST May 82, p959-977. Reliability Analysis Based on Fuzzy Probability, Naruhito Shiraishi and Hitoshi Furuta, EM Dec. 83,

p1445-1459.

Reliability Analysis of Lifeline Systems, Hideji Kawa-

kami, TC Aug. 83, p117-131.
Reliability of Chain and Ductile-Parallel Systems, Mircea Grigoriu, EM Oct. 83, p1175-1188. Reliability of Nonlinear Framed Structures, Tai-Yan

Kam, Rose B. Corotis and Edwin C. Rossow, ST July 83, p1585-1601.

Risk Assessment for Offshore Structures: A Review, Erik Vanmarcke and Demosthenes Angelides, ST Feb. 83, p555-571.

Roof Snow Loads for Structural Design, Michael J. O'Rourke and Ulrich Stiefel, ST July 83, p1527-1537. Stochastic Finite Element Analysis of Simple Beams, Erik Vanmarcke and Mircea Grigoriu, EM Oct. 83, p1203-1214.

Stochastic Network Model for Planning Scheduling, John C. Woolery and Keith C. Crandall, CO Sept. 83,

p342-354.

Stochastic Response of Yielding Multistory Structures, Loren D. Lutes and Tysh Shang Jan, EM Dec. 83, p1403-1418.

System Reliability Bounding by Conditioning, Ove Ditlevsen, EM Oct. 82, p708-718.

Theoretical Development of the Distribution of Soil Incorencial Development of the Distribution of Son Strength, Kingsley O. Harrop-Williams, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p944-947. Wind Loading Risks from Multivortex Tornadoes, Lawrence A. Twisdale and William L. Dunn, ST

Aug. 83, p2016-2022.

Problem solving Availability Mechanics: Logical Economics, George F.

McMahon, El Oct. 83, p265-273. Solving Ill-Structured Sociotechnical Problems, Richard H. McCuen, El Apr. 83, p113-126.

Productivity

Attitudes toward Productivity Pay Programs, Alexander Laufer and Brian E. Moore, CO March 83, p89-101. Better Trained Construction Supers Would Boost Productivity, CE Apr. 83, p60-62.

Crew Performance Measurement via Activity Sampling, H. Randolph Thomas and Jeffrey Daily, CO Sept. 83,

p309-320.

Financial Incentives to Raise Productivity, Alexander Laufer and John D. Borcherding, CO Dec. 81, p745-756.

Improving Productivity, J. R. King, Jr., ed., 1983, 101pp. Labor-Contractor Dialogue Transforms Worksite At-

mosphere, Marie A. Casey, CE Nov. 83, p64-68.
Physical Completion Measuring Techniques, Lee S.
Bernstein, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p147-161.

Productivity Improvement: The Influence of Labor, William F. Maloney, CO Sept. 83, p321-334.

Productivity in Civil Engineering and Construction, CE

Feb. 83, p60-63. Simulation and Analysis of Construction Operations, Boyd C. Paulson, Jr., Sarah A. Douglas, Anthony Kalk, Ali Touran and Graeme A. Victor, TC Aug. 83, p89-104.

Union Construction is Fighting Back, Allen Morrison, CE Sept. 83, p69-72.

Professional activities

Involvement of Engineers in Public Affairs, Milton Mortman, El Oct. 82, p251-262. Section Involvement at the National Level, Albert J.

Gallardo, El Jan. 83, p50-52.

Professional advancement

Constructive Suggestions for Construction Success, Celia Ruiz Tomlinson, CE Jan. 83, p73-76. When Enough is Enough, Kate Ludeman, CE Aug. 83,

Professional development

Professional development Fast Track Methods for Management Development, Melville Hensey, El July 83, p223-228. Field Experience: Another Facet of Professional Development, David T. Biggs, CE Dec. 83, p54-55. Mandatory Continuing Education: A Legislative Myth? Arthur T. Nielsen, CE Feb. 83, p34-36.

Professional engineering Are Engineers Happy People? Mir M. Ali, CE Aug. 83,

p58-59.
ASCE Salary Survey 1981, Committee on Employment Conditions of the Professional Practice Division of the American Society of Civil Engineers, 1982, 76pp. One Uses His Umbrella When It Rains, Kenneth A. Roe, El Apr. 82, p166-171.

Professional practice

Altruism, Egoism, and Risk, Richard H. McCuen, EI

Apr. 81, p111-120.
Computers in Civil Engineering Practice, Steven J. Fenves, TC May 82, p44-52.
An Eighth Canon for the Practitioner, Roger E. Nelson,

El Jan. 83, p53-57.

Engineer Roles in the Public Participation Process, Bruce M. Thomson, Timothy De Young and Con-stance J. Meadowcraft, El July 83, p214-222. Engineering Students Perception of General Educa-

tional Requirements, Richard H. McCuen, El Oct.

83, p256-264.

Potential Malpractice Liability of Civil Engineers, Walter E. Jensen, Jr. and Frank P. Land, El July 83,

Professionalism and Ethics Education: More than Just a One-Credit Course, Bryant W. C. Wong, El Jan. 83, p21-25.

Responding to the Challenges of Engineering Practice, Adolph J. Ackerman, El Apr. 80, p137-159.

Professional registration

Antitrust Suit Filed against Registration Board of Alaska, CE Jan. 83, p27. Mandatory Continuing Education: A Legislative Myth?

Arthur T. Nielsen, CE Feb. 83, p34-36.
Surveying: The Profession and Its Requirements,
Hallas H. Ridgeway, SU April 82, p18-22.

Professional role

Altruism, Egoism, and Risk, Richard H. McCuen, El Apr. 81, p111-120.

Association between Personal and Professional Values

Richard H. McCuen and Michael S. Pritchard, El Jan. 83, p1-9.

Availability Mechanics: Logical Economics, George F. McMahon, El Oct. 83, p265-273.

The Civil Engineer and the Decay of America's Infrastructure, Anthony J. Bellitto, Jr., CE Dec. 83, p56-57.

Civil Engineering Planning Guide: Part I-Framework for Planning, Task Committee to Prepare a Planning Guide of the Urban Planning and Development Division, (Richard S. Howe, chmn.), UP May 82, p34-69.

Civil Engineers and the Spirit of Participation, Frank

Musica, CE Dec. 83, p96.

Civil Engineer's Responsibility for Highway Safety, David K. Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p196-199.

The CM's Liability to the Client—Malpractice, Charles R. Holton, (Liability in Construction Management,

David M. Lee, ed., 1983), p22-29.

Engineer Roles in the Public Participation Process, Bruce M. Thomson, Timothy De Young and Constance J. Meadowcraft, El July 83, p214-222

Engineering Research: Potential for Fraud, Richard H.

McCuen, El July 83, p185-194.
Engineering Students Perception of General Educational Requirements, Richard H. McCuen, El Oct. 83, p256-264.
The Highway Engineer and Ethical Responsibility. Gerald Donaldson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983),

p200-204 Proceedings of the Conference on the Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed.,

Professionalism and Ethics Education: More than Just a One-Credit Course, Bryant W. C. Wong, El Jan. 83,

Putting Professionalism in a Professional Career, Irving B. Reed, El July 83, p242-247.

Responding to the Challenges of Engineering Practice, Adolph J. Ackerman, El Apr. 80, p137-159. The Responsibility of the Civil Engineer, Howard L.

Anderson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p191-192. The Responsibility of the Civil Engineer in Highway

Safety, Jack Humphreys, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p193-195. Time for Engineers to be Involved in Their Communities, Frank Musica, CE July 83, p112.

Professional schools Bias or Handicaps? (Itr.), William D. Richardson, CE

Oct. 82, p22. Professional Schools: The Debate Continues, Joseph S. Ward, El Apr. 83, p136-142.

Professional societies

Newcomen Society Will Honor ASCE, CE Feb. 83, p74 Professional Organization for Wind Engineering, CE Feb. 83, p12

Two Mapping Societies Vote Down Merger, CE Nov. 83, p10.

Program evaluation Coastal Zone Management on the West Coast: An Evaluation, Richard G. Hildreth and Ralph W Johnson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p231-251.

Institutional Problems in the Future Management of the California Coastal Resource Program, Lois Ewen, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p252-272. A Ten-Year Reunion with the Oregon Coastal Management Program: A Need to Evaluate, Don Oswalt and Neal Coenen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p226-230.

Progressive failure

Progressive Collapse Resistant Design, John L. Gross and William McGuire, ST Jan. 83, pl-15. Reliability-Based Progressive Fatigue Collapse, Scott G. Martindale and Paul H. Wirsching, ST Aug. 83, p1792-1811.

Progressive waves

Water Waves Propagating on Beaches of Arbitrary Slope, Y. Y. Chen and H. H. Hwung, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p811-822.

Project benefits

The Economic Impact of the Hugo Reservoir, Neil J. Dikeman, Jr., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p31-44.

Project control

Integration of Client/Contractor Project Control, James F. Warren and Richard A. Mazzini, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p224-235.

Owner Control Obligations on Mega-Projects, Keith C. Crandall, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983),

p216-223.

Planning Projects: A Formula for Control, William L. Metzger, (Improving Productivity, J. R. King Jr., ed., 1983), p4-10.

Project Control Using a Standard Identification Sys-tem, G. R. Miehe, B. R. Hubal and J. R. Koupal, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p162-177.

A Specification for Effective Cost and Project Control,

Alfred L. Dellon, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p85-94.

A System for Integrated Project Control, James M. Neil, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p138-146.

Project evaluation

Evaluation of Completed Projects-Why Is It Important? Lloyd G. Antle, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p6-19. The Impact of PSD Requirements for a Mione Mouth

The Impact of FSD Requirements for a Mione Mouth Coal Gasification Project, Theodore Reynolds Smith, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), 1-18. Total CPM Really the Answer for Super Projects? Ronald M. Parsons, CE Nov. 83, p70-71. Physical Completion Measuring Techniques, Lee S. Bernstein, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p.147-161.

p147-161.

Project Evaluation in International Development, Branden B. Johnson, El Apr. 82, p122-132.

Project feasibility

The Impact of PSD Requirements for a Mione Mouth Coal Gasification Project, Theodore Reynolds Smith,

(Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p1-4.

Project management Authority Structures for Construction Project Management, Randolph Thomas, John M. Keating and Allen C. Bluedorn, CO Dec. 63, p406-422. Construction Evaluation and Management Using

Construction Evaluation and Management Using DBMS, Alan Stewart Nanco, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p337-350.
Consulting Engineering is Motivating People, David Novick, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p68-84.
Cost Control at the Project Level: Construction Management, Dewayne E. Hahn, (Improving Productivity, J. R. King Jr., ed., 1983), p1-3.
Critique - Cost Estimating and Project Management, Robert I. Carr. (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p61-67.

Fast Track Methods for Management Development, Melville Hensey, El July 83, p223-228. Improving Productivity, J. R. King, Jr., ed., 1983,

Is Total CPM Really the Answer for Super Projects? Ronald M. Parsons, CE Nov. 83, p70-71. Labor-Contractor Dialogue Transforms Worksite Atmosphere, Marie A. Casey, CE Nov. 83, p64-68.

Microcomputers in Field Project Management, Robert E. Dapogny and Charles W. Brodhead, Jr., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), D253-266.

Motivated Personnel Produce Winning Constructors, John W. Fowler, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p49-54. Owner Control Obligations on Mega-Projects, Keith C. Crandall, (Current Practice in Cost Estimating and

Cost Control, Victor F. Spruill, et al, eds., 1983), p216-223.

Physical Completion Measuring Techniques, Lee S. Bernstein, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p147-161.

Project Management Communications, Raynold O. Folland, El Jan. 83, p39-44.

A Specification for Effective Cost and Project Control, Alfred L. Dellon, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p85-94.

Project managers
Authority Structures for Construction Project Man-

Authority Structures for Construction Project Management, Randolph Thomas, John M. Keating and Allen C. Bluedorn, CO Dec. 83, p406-422.
The CM's Liability to Other Parties—Negligence, Robert J. Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p30-37.
The CM's Liability to the Client—Malpractice, Charles B. Holton (Liability in Construction Management).

R. Holton, (Liability in Construction Management,

David M. Lee, ed., 1983), p22-29. Vitness, George Anthony Smith, (Liability in Construction Manager ment, David M. Lee, ed., 1983), p73-79. An Investigation of the Motivation of Project Managers

An Investigation of the Motivation of Project Managers and Department Heads in Consulting Engineering Firms, Brian J. Lewis, (Improving Productivity, J. R. King Jr., ed., 1983), p28-40.

The Legal Profile of the Construction Manager, Jeremiah D. Lambert, (Liability in Construction Management, David M. Lee, ed., 1983), p1-21.

Motivation - The Key to Successful Plant Design, Wayne D. Suiter, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p55-67.

Professional Liability Coverage for the CM, Homer M. Sandridge, (Liability in Construction Management, David M. Lee, ed., 1983), p38-42.

Accounting Control of Project Costs, Walter A. Saunders, Jr., (Improving Productivity, J. R. King Jr., ed., 1983), p11-15.

Civil Engineering Planning Guide: Part I—Framework for Planning, Task Committee to Prepare a Planning Guide of the Urban Planning and Development Division, (Richard S. Howe, chmn.), UP May 82, p34-69.

Implementation Aspects of Water Resources Planning in India, Udai P. Singh, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p203-210.

Mitigation Measures Management Plan for Coastal Zones, Alan Zada and Michael Whaley, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1070-1081.

Planning Projects: A Formula for Control, William L. Metzger, (Improving Productivity, J. R. King Jr., ed., 1983), p4-10.

Principles of Project Formulation for Irrigation and

Drainage Projects, George R. Baumli, ed., 1982,

Reevaluating Six Mississippi River Headwaters Lakes, Carl W. Stephan, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p191-202.

roject selection

Multiobjective Approaches to River Basin Planning, Mark Gershon and Lucien Duckstein, WR Jan. 83,

Project specifications
Construction Specifications: A One-Book Deal, Joseph Goldbloom, CO Dec. 80, p601-603.

Dynamics of a Projectile in a Concentric Flexible Tube, H. L. Langhaar, A. P. Boresi, R. E. Miller and A. S. Elder, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p230-233. Dynamics of Rigid Guns with Straight Tubes, H. L. Langhaar, A. P. Boresi, R. E. Miller and A. S. Elder,

(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p226-229.

Spectral Analysis of Radar Data for Ballistics, James N. Walbert, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p359-362.

Taxation, CE Sept. 83, p26., CE June 83, p22. Taxation Abatement Denied, CE Jan. 83, p14. Taxation, Business "Image", CE Nov. 83, p22.

Protective coatings
Ensuring Water Quality in a Distribution System, Karl
B. Stinson and Keith E. Carns, EE Apr. 83, p289-304. Polymer Modified Glass Fiber Reinforced Cement (PGRC) as a Protective Buffer Coating over Thin Film Anti-Corrosion Coatings, P. A. White, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p238-258.

Protective structures
Design of Protective Structures Against Blast, Shlomo
Ginsburg and Uri Kirsch, ST June 83, p1490-1506.
Design of Underground Protective Structures, Felix S.
Wong and Paul Weidlinger, ST Aug. 83, p1972-1979.

Bayesian Approach to Prototype Testing, P. Hauge Madsen and Niels C. Lind, ST April 82, p753-770. Floating Breakwater Prototype Test Program, Eric Nelson, Derald Christensen and A. David Schuldt, (Coastal Structures '83, J. R. Weggel, ed., 1983), p433-446.

Prototype Testing of Dolosse to Destruction, T. Terao, K. Terauchi, S. Ushida, N. Shiraishi, K. Kobayashi

and H. Gahara, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2062-2078. Prototype Tests on Riprap under Random Wave Attack, J. D. Pitt and P. Ackers, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1829-1836.

Prototypes
Model-Prototype Comparison of Free Surface Vortices,
Model-Prototype Comparison of Free Surface Vortices,
MV Oct. 81, p1243-1259. George E. Hecker, HY Oct. 81, p1243-1259.

Public access

The Ancient Public Right of Access to Waterways, Walter Cook, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p408-419. Barriers to Coastal Recreation for Disabled Persons,

Harlan Hahn, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1882-1901. Beach Access—Getting More for Less, Debra Swim, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p949-965. Coast Effectiveness: A Better Beach for Your Buck, Donald B. Neuwirth and Stephen Furney-Howe, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p930-948.

The Commons Concept and Coastal Management, N Bartlett Theberge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p448-455.

Dorchester Rediscovered Urban Waterfront Access,

Marianne C. Connolly, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p122-137. End Runs around Public Access Law and Policy, Alex

W. Wypyszinski, Esq., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p438-447.

Magoon, et al., eds., 1936, 1943-944.

Chesler and Bert Schwarzschild, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2811-2821.

Integration of Coastal Zone Management Concerns at the Local Government Level in Maryland, Earl H.

Bradley, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1340-1351.
Multiple Beach Use, Does It Work? A Case Study, Stephen V. Shabica and Michael Cousens, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2186-2200.

Public Access and Public-Private Partnerships,

Adams and L. Adams, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p966-984. Public Access on the Hudson: A New Jersey Perspective, Barbara E. Kaufman, (Coastal Zone '83, 1083), 1983, 144 Orville T. Magoon, et al, eds., 1983), p138-144. Public Access Planning in Massachusetts, Marjorie

O'Malley, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p2201-2221.

Regulation and Planning for Coastal Access, Laurie J.

Flowers, (Coastal Zone '83, Orville T. Magoon, et al, 1983), p112-121.

Sport Divers and Their Preferred Coastal Settings, Mick R. E. Matheusik and Allan S. Mills, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1488-1506.

California State Parks: The Marine Program, Charles Mehlert, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1544-1549.

Transportation Brokerage in a Bi-State Area, Stewart A. Nelson, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p22-31.

In Third World Villages, a Simple Handpump Saves Lives, Allen Morrison, CE Oct. 83, p68-72.

The Incidence, Monitoring, and Treatment of Viruses in Water Supply Systems, Task Committee on Viruses in Drinking Water of the Committee on Water Supply and Resources Management of the Environmental Engineering Division, 1983, 85pp.

Role of Risk Analysis in Health Policy, Paolo Ricci, Abe Silvers and Ronald Wyzga, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al., eds., 1983), p19-23.

Urban Shore-Based Fishing: A Health Hazard? Charles
A. Heatwole and Niels C. West, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p2587-2598.

Public information programs
Ad and PR Campaign Gets Started, CE Apr. 83, p72. Developing Public Awareness, John F. Sustar, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2599-2602.

What Your ASCE Dues Checkoff Buys, CE Oct. 83, p94-95.

Public land

Assessing and Managing Coral Reef Visual Resources,

Kerry J. Dawson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1507-1517. Tidelands Ownership and Management: The Public Interest and Private Property Rights in New Jersey, David N. Kinsey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1902-1922. Title Settlements in San Francisco Bay Historic Wetlands Using the Land Bank Method, Michael R. Valentine, (Coastal Zone '83, Orvilla T. Magoon, et al.

Valentine, (Coastal Zone '83, Orville T. Magoon, et al,

1983), p456-474.

Who Owns the Beach, Katherine E. Stone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p475-479

Public opinion

Are Engineers Happy People? Mir M. Ali, CE Aug. 83, p58-59.

Coastal Citizens Movements in Japan and California, Harvey A. Shapiro and Thomas A. Zanic, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1803-1822.

Coastal Zone '83, Orville T. Magoon, ed. and Hugh

Converse, ed., 1983, 2918pp.

The Corps of Engineer's Public Interest Review Process: Is It Working? Clifford D. Rader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983). p2086-2091.

Washington D.C. Suburban 166-Unique Compromise in Expressway Design, John N. Hummel, CE Dec. 82,

Public participation
Community Participation on California's Coast, Peter S. Brand, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2655-2663. The Corps of Engineer's Public Interest Review

Process: Is It Working? Clifford D. Rader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2086-2091.

Engineer Roles in the Public Participation Process, Bruce M. Thomson, Timothy De Young and Constance J. Meadowcraft, El July 83, p214-222. Improving Coastal Decisions by Committee Training,

Helene Tenner and Scott Brumburgh, (Coastal Zon "83, Orville T. Magoon, et al, eds., 1983), p559-564.
The Public Be Damned—Grays Harbor Revisited,
David E. Ortman, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p1694-1713.

Public policy

The Arms of Congress: Useful to Engineers, Helen

Bogolubov Desai, CE Aug. 83, p96.

An Essential Link to Understanding Public Policy Makers, Helen Bogolubov Desai, CE June 83, p104. NEPA: The Original Intent of the Law, Daniel A. Dreyfus, El Oct. 83, p249-255.

Public Works and Unemployment: A Panel Discussion,

CE Aug. 83, p46-49. Who Says Science Can't Influence Decision Making? Eric D. Metz and Joy B. Zedler, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p584-600.

Public safety Stearns Becomes President: Public Safety and Quality Water Among Concerns, CE Oct. 83, p76-77.

Public transportation

Accessible Public Transit Alternatives, Robert L. Smith, Jr., TE Jan. 83, p16-32.

Highways, Transport, and Energy: A Look Ahead, Herbert S. Levinson, TE Sept. 82, p447-456. Light Rail for Sacramento, CE Oct. 83, p10.

Policy Analysis Implications of Four Cogent Transportation Topics, Yupo Chan, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p32-53.

Subcommittee Opposes Mass Transit Cuts for 1984, CE April 83, p10.

Transit Performance Evaluation Model, Richard P. Guenthner and Kumares C. Sinha, TE July 82,

Transportation Brokerage in a Bi-State Area, Stewart A. Nelson, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p22-31. Public welfare

Efficiency, Equity, and Drainage Design, David C. Colony, El Apr. 83, p85-102.

Putting Professionalism in a Professional Career, Irving

B. Reed, El July 83, p242-247.

Public works

Analyzing Infrastructure Condition-A Practical Approach, D. Kelly O'Day, CE April 83, p39-42.

Boston Tunes Up Water System, CE June 83, p48-50.

Can the Private Sector Solve Water Investment Prob-

lems? Neil S. Grigg, CE April 83, p6. Can the Private Sector Solve Water Investment Prob-

lems? Neil S. Grigg, CE April 83, p6.
Capital Budgeting and Getting Involved in Public Works Planning, Helen Bogolubow Desai, CE Sept. 83, p130.

Coast Effectiveness: A Better Beach for Your Buck, Donald B. Neuwirth and Stephen Furney-Howe, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p930-948.

Congressional Budget Office Estimates \$53.4 Billion a Year for Public Works, CE June 83, p21. Evaluation of Completed Projects—Why Is It Important? Lloyd G. Antle, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p6-19.

Excerpts from: Rebuilding America-Financing Public Works in the 1980s, Roger J. Vaughn, CE Sept. 83, p65-68.

Financing Civil Works with User Fees, Chris Hendrickson, CE Feb. 83, p70-72.

Infrastructure Crisis: What the Media Are Saying, CE

Jan. 83, p38-40.
Next Issue—The Nation's Water Infrastructure, Frank

Next Issue—The Nation's water intrastructure, that Musica, CE June 33, p104.

Proposition 13: Imapet on California Public Works, Gary Goldstein, CE Sept. 83, p45-49.

Public Contracts, CE Sept. 83, p45-49.

Public Works and Unemployment: A Panel Discussion,

CE Aug. 83, p46-49.

Public Works Contract, CE Oct. 83, p27.

Public Works (Irr.), David King, CE July 83, p30.

Salvaging Cleveland, Allen Morrison, CE Nov. 82, p39-42.

The Senate Considers Rebuilding America, Frank D. Musica, CE Jan. 83, p124.

To Help the Economy, Invest in Public Works, Frederick C. Thayer, CE Sept. 83, p6. Water Experts Call for Innovative Financing, CE Feb.

83, p8. **Publications**

Engineering Directory, CE Jan. 83, p81.

Thailand Peace Corps Seeks Advice (ltr.), Heidi
Pfeiffer, CE June 83, p26.

Pull-out resistance Model for Pull-Out Strength of Anchors in Concrete, Walter H. Peier, ST May 83, p1155-1173.

Pump-Sump Design Experience: Summary, Charles E. Sweeney, Rex A. Elder and Duncan Hay, HY March 82, p361-377.

imped storage

Hiwasse Pumped-Storage Temperature Study, Russ T. Brown and Ming C. Shiao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p386-391.

Water Quality Mitigation at a Pumped Storage Plant, Alan Milton, E. Eric Adams, John H. Mason, Belmonte P. Cucolo and John W. Blake, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p516-523.

I-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-

Assessing Waterlogging Controls II: Impact Forecasts, R. A. Young, H. J. Morel-Seytoux and A. R. Simpson, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p134-140. Pumping Eases Pressure on Utah Dam, CE Sept. 83,

Pumping Near Mt. St. Helens Lowers Lake, CE Sept. 83 Wastewater Effluent Is Pumped Uphill and Returns Via Aquifer, CE Nov. 83, p12.

Pumping stations
Drainage by an Intercepting Pump Station, Mostafa M. Soliman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p337-343.

Pumping tests, wells Pump Testing Boulder Zone Aquifer, South Florida, Udai P. Singh, Gary E. Eichler, C. Ross Sproul and J. I. Garcia-Bengochea, HY Aug. 83, p1152-1160.

Pump-Sump Design Experience: Summary, Charles E. Sweeney, Rex A. Elder and Duncan Hay, HY March 82, p361-377.

Scale Effects of Modeling Flow Conditions in Pump

Sumps, M. Padmanabhan and G. E. Hecker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p153-158.

Purchasing

Computers: The Ins and Outs of the Purchasing Contract, Timothy C. O'Connor, CE Feb. 83, p37-39. Micro-Computers in the Consulting Office, Roger F. Weiss, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p15-27.

Quality assurance Quality Assurance for Cold Regions Construction, Fred W. Hays, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p72-94.

Quality Assurance in Construction: How to Improve It,

CE Oct. 83, p12.

Quality control Building Construction: More than Inspection Is Needed to Prevent Problems, Albert L. Gouwens, CE June 83, p6. Probabilistic Evaluation of Welded Structures,

Achintya Haldar, ST Sept. 82, p1943-1955.

Quality Assurance in Construction: How to Improve It, CE Oct. 83, p12.

Quantum mechanics

Oscillatory Model for Wall-Bounded Turbulence, Enso Levi, EM June 83, p728-740.

Results of Survey Questionnaire of Surveying and Mapping Division, Bonnie S. Maynard, SU March 83, p37-53.

Queueing
Optimum Number and Capacity of Seaport Berths,
Michihiko Noritake and Sakuo Kimura, WW Aug. 83, p323-339.

Radar

Radar Measures the Extent of Tainted Michigan Site, CE Oct. 83, p10.

Radial flow

Circular Hydraulic Jump, John D. Lawson and Brett C. Phillips, HY Apr. 83, p505-518.

Drain Tube Opening Effects on Drain Inflow, Fawzi S.

Mohammad and R. Wayne Skaggs, IR Dec. 83,

p393-404.

Radiation
1983 National Conference on Environmental Engi-

1965 National Conference on Environmental Engineering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.
Radon Levels in Metropolitan Denver Homes, Jerome G. Morse and John F. Baxter, (National Conference on Environmental Engineering, Allen Medine, et al, ed. 1993, 2700 706. eds., 1983), p700-706.

Radioactive materials

Organization, Objectives, and Present Status of Fusrap and Umtrap, Stephen S. Hart, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p310-317.

Radioactive waste disposal Decision Upheld on Radioactive Waste, CE Aug. 83,

Legal and Institutional Aspects of Siting Low-Level

Waste Shallow Land Burial Sites, Leonard Slosky and Mary Whitman, (National Conference on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), p296-302.

Shallow Land Burial of Low-Level Radioactive Waste,

David Daniel, GT Jan. 83, p40-55.
Siting a Near-Surface Disposal Facility for Low-Level
Radioactive Wastes, David Siefken and Edward
Hawkins, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p303-

Radioactive waste management

Nuclear Waste Management, Task Committee on Nuclear Effects of the Committee on Air, Noise, and Radiation Management of the Environmental Enineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.), 1982, 52pp.

Radioactive wastes

Waste Shallow Land Burial Sites, Leonard Slosky and Mary Whitman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p296-302. Nuclear Waste Management, Task Committee on

Nuclear Effects of the Committee on Air, Noise, and Radiation Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.), 1982, 52pp. Shallow Land Burial of Low-Level Radioactive Waste,

David Daniel, GT Jan. 83, p40-55.
Siting a Near-Surface Disposal Facility for Low-Level
Radioactive Wastes, David Siefken and Edward
Hawkins, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p303-300

Raft foundations

Settlement of Raft Foundations, J. Neil Kay and Richard L. Cavagnaro, GT Nov. 83, p1367-1382.

Energy Efficiency of Arctic Transportation Systems, Derek M. Sherman and Edwin M. Rhoads, EY Dec. 83, p236-246

Light Rail for Sacramento, CE Oct. 83, p10.

The Noise and Vibration Corridor Concept Used in Siting Rail Rapid Transit Systems in Urban Areas, Carl E. Hanson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p904-909

Planning Railway Construction, Alfred E. Fazio, Robert N. Fazio and E. K. Tryon, TE Jan. 83,

p73-87

Transportation Issues Facing Coal Power Plant Development, G. John Kurgan, (Emerging Energy/Envi-ronmental Trends and the Engineer, Ronald D. Neufeld, et al., eds., 1983), p24-28. What Future for America's Railroads? Eugene E.

Dallaire, CE Nov. 82, p54-59.

Railroad ballast

Pilot Studies Apply Asphalt Concrete in Railroad Beds: Expected to Eliminate Subballast, E. J. Scott, CE June 83, p16.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Three-Dimensional Testing and Modeling of Ballast, R. Janardhanam and C. S. Desai, GG June 83, p783-

Railroad cars

Probabilistic Fatigue Analysis of Freight Cars, J. Mohammadi and V. K. Garg, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p915-918.

Railroad engineering
Planning Railway Construction, Alfred E. Fazio,
Robert N. Fazio and E. K. Tryon, TE Jan. 83, p73-87.

Railroad ties

Amtrak to Switch to Concrete Ties on Its Northeast

Lines. CE Nov. 83, p16.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Railroad tracks

155

Bridge Impact due to Wheel and Track Irregularities Apiwan Wiriyachai, Kuang-Han Chu and Vijay K. Garg, EM Aug. 82, p648-666.

Dynamic Forces in Continuous Slab Railway Tracks, Steven A. Smithers and Levon Minnetyan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p343-346.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82,

p1423-1442

Traffic-Stopping Rail Lines Relocated, CE Dec. 83, p10.

Bridge Impact due to Wheel and Track Irregularities, Apiwan Wiriyachai, Kuang-Han Chu and Vijay K. Garg, EM Aug. 82, p648-666.

Important Aspects of Port/Railroad Interface, Winn B. Frank, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p299-318.

Location of Railroad Boundaries, Andrew C. Kellie, A. Essam Radwan and Dewey R. Houck, II., SU March 83, p14-23.

Planning Railway Construction, Alfred E. Fazio, Robert N. Fazio and E. K. Tryon, TE Jan. 83.

Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Railroad Overpass and Bridge Revitalize Battle Creek, CE June 83, p16-18.

Traffic-Stopping Rail Lines Relocated, CE Dec. 83,

p10.
What Future for America's Railroads? Eugene E. Dallaire, CE Nov. 82, p54-59.

Dynamic Response Analysis of Elevator Model, T. Y. Yang, H. Kullegowda, Rakesh K. Kapania and Anshel J. Schiff, ST May 83, pl 194-1210.

Rain gages Point Rainfall Estimation for a Mountainous Region, Yeou-Koung Tung, HY Oct. 83, p1386-1393.

Rainfali

Antecedent Moisture Condition Probabilities, Donald D. Gray, Peter G. Katz, Sharon M. deMonsabert and

Neroli P. Cogo, IR June 82, p107-114.

Design Rainfall Patterns for the State of Wyoming, Patrick T. Tyrrell, (Advances in Irrigation and

Patrick 1. Tyrfell, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p494-502. Drought Analysis and Soil Moisture Prediction, Graeme M. Smart, IR June 83, p251-261. Point Rainfall Estimation for a Mountainous Region, Yeou-Koung Tung, HY Oct. 83, p1386-1393. The Principle of Maximum Entropy for Parameter Estimation of Statistical Distributions, E. S. Oyegoke, J. O. Sonuga and G. A. Akpoji, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p899-902.

Radar Rain Forecasting for Wastewater Control, Christine Damant, Geoffrey L. Austin, Aldo Bellon, Mohamad Osseyrane and Nam Nguyen, HY Feb. 83,

p293-297.

Rainfall Intensity-Duration-Frequency Formulas, Cheng-lung Chen, HY Dec. 83, p1603-1621. Simplified Method for Rainfall Intensities, George H.

Hargreaves, IR Sept. 81, p281-288.

Rainfall intensity Precipitation in Southern Nevada, Richard H. French, HY July 83, p1023-1036.

Rainfall Intensity-Duration-Frequency Formulas, Cheng-lung Chen, HY Dec. 83, p1603-1621. Simplified Method for Rainfall Intensities, George H. Hargreaves, IR Sept. 81, p281-288.

Rainfall-runoff relationships Antecedent Moisture Condition Probabilities, Donald D. Gray, Peter G. Katz, Sharon M. deMonsabert and Neroli P. Cogo, IR June 82, p107-114.
omparison of Four Rainfall-Runoff Methods. Bruce J.

McGurk and Richard H. Hawkins, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p476-483

Correspondence between the SCS CN and Infiltration Parameters, H. J. Morel-Seytoux and J. P. Verdin, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p308-319.

ed., 1983), ps.98-319.
Curve Numbers: A Personal Interpretation, Allen T.
Hjelmfelt, Jr., (Advances in Irrigation and Drainage,
John Borrelli, ed., 1983), p.208-215.
A Data-Based Evaluation of the Curve Number
Method, Robert J. Montgomery and Paul E. Clopper,
Advances in International Decisions (John Bearelli) (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p290-297.

Design Rainfall Patterns for the State of Wyoming,

Patrick T. Tyrrell, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p494-502.

Effective Impervious Area in Urban Runoff Modeling, William M. Alley and Jack E. Veenhuis, HY Feb. 83. p313-319.

Generalized SCS Runoff and Infiltration Equations, Cheng-lung Chen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p216-225.

Hydraulic Resistance of Pavement Surfaces, Joseph R.
Reed and David F. Kibler, TE March 83, p286-296.
Improvement of Nonlinear Rainfall-Runoff Model, Otto J. Helweg, Jaime Amorocho and Ralph H. Finch, HY July 82, p813-822. Nonlinear Runoff Modeling: Parameter Identification, Gilles G. Patry and Miguel A. Marino, HY June 83,

p865-880.

Radar Rain Forecasting for Wastewater Control, Christine Damant, Geoffrey L. Austin, Aldo Bellon, Mohamad Osseyrane and Nam Nguyen, HY Feb. 83, p293-297.

Recursive Estimation in Nonlinear Hydrologic Model, Srinivas G. Rao and A. Ramachandra Rao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p499-504.

Regional Monthly Rainfall-Runoff Model, M. Mimikou and A. Ramachandra Rao, WR Jan. 83, p75-93. Role of AMC in Computing Runoff with Curve Numbers, Krishan P. Singh, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p609. SCS Rainfall-Runoff Model TR-55 and Proposed

Revisions, Donald E. Woodward, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p541-546.

Random processes
Dynamic Stability of Kelvin-Viscoelastic Column, G. Ahmadi and P. G. Glockner, EM Aug. 83, p990-999. First-Passage Probability for Two-Mode Systems, Loren D. Lutes and Shen-Ho Tzuang, EM Dec. 83, p1358-1374.

Random Equivalence in Engineering Mechanics, Sayed M. Metwalli, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p275-278.

Random Processes in Engineering Mechanics, M. Shinozuka, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p18-46.

Random Response of Mast Antenna Structures, C. W. S. To, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p279-282.

Random variables

Random Piping Responses to Condensation Oscillation Loads, T. Y. Shih and P. C. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p205-208.

Random vibration

Building Critical-Mode Control: Nonstationary Earth-

quake, Jann N. Yang and M. J. Lin, EM Dec. 83. p1375-1389

p1375-1389.

Control of Tall Buildings in Along-Wind Motion, J. N. Yang and B. Samali, ST Jan. 83, p50-68.

Markov Approximation to Transient Vibration, Polychronis-T. D. Spanos and George P. Solomos, EM Aug. 83, p1134-1150.

Multimode Bridge Response to Wind Excitations, Y. K. Lin and J. N. Yang, EM Apr. 83, p586-603.

Non-Zero Mean Random Response of Yielding Systems. Thomas, T. Rabase (Response of Page).

tems, Thomas T. Baber, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p267-270.

Probabilistic Optimum Base Isolation of Structures, Michalakis C. Constantinou and Iradj Tadjbakhsh, ST March 83, p676-689.

Random Vibration of Continuous Beams, Ashwin Shah and D. A. Gasparini, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p259-262. Stationary and Transient Response Envelopes, Steen

Krenk, Henrik O. Madsen and Peter H. Madsen, EM

Feb. 83, p263-278.

Stationary and Transient Response Statistics, Peter H. Madsen and Steen Krenk, EM Aug. 82, p622-635.
Stochastic Response of Yielding Multistory Structures,
Loren D. Lutes and Tysh Shang Jan, EM Dec. 83, p1403-1418.

Structural Response to Modulated Random Excitations, Mircea Grigoriu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p263-266.

Rapid transit railways California Bullet Train Plans Revealed, CE Jan. 83,

Dallas Plans Transit System, CE April 83, p10. LA Light Rail Gets Wider, CE Aug. 83 LA/San Diego Bullet Train is Financially Possible, CE

June 83, p8.

Rapid transit systems
The Noise and Vibration Corridor Concept Used in Siting Rail Rapid Transit Systems in Urban Areas, Carl E. Hanson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p904-909.

Starter Line for Baltimore's Rapid Transit Opens this

Fall, CE Sept. 83, p10.

Rayleigh waves Ground Strain Estimation for Seismic Risk Analysis, Masanobu Shinozuka, Hiroyuki Kameda and Takeshi Koike, EM Feb. 83, p175-191.

Recharge wells
Basin Recharge of Playa Water, A. D. Schneider and O. R. Jones, IR Sept. 83, p309-316.

Mixing in a Stratified Recirculating Flow, J. R. Koseff, H. Rhee and R. L. Street, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), pl-6.

Side Discharges into Open Channels: Mathematical Model, Ayodeji O. Demuren and Wolfgang Rodi,

HY Dec. 83, p1707-1722.
Simulation of Flow in Rectangular Clarifiers, Emad Imam and John A. McCorquodale, EE June 83, p713-730.

Two-Equation Turbulence Model for Flow in Trenches, Ben J. Alfrink and Leo C. van Rijn, HY July 83,

p941-958.

An Assessment of Salt Marsh Restoration and Implications for Coastal Zone Management, Margaret S. Race, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1473-1476.

California Coastal Salt Marsh Restoration Design, Philip B. Williams and H. Thomas Harvey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p1444-1456.

Conceptual Guidelines for Aquatic Ecosystem Res-

toration, Vincent A. Lamarra, John Carter and Allen Medine, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p618-

624.
Durban Beaches Reclamation: Practical Aspects, K. A. Barnett, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1970-1991.

Innovative Estuarine Restoration and Management,

Scott McCreary and John Zentner, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2527-2551.

New Directions in Restoration of Coastal Wetlands,

Jens Sorensen and Susa Gates, (Coastal Wetlands, Orville T. Magoon, et al, eds., 1983), p1427-1443. New Water Projects for the West, CE Jan. 83, p8. Post Surface Mining Drainage Basin Water Quality: Relationship to Mining and Reclamation Practice, Areal Disturbance, and Time, Paul S. Dickens, Roger A. Minear and Raymond R. Rose, (National Con-

ference on Environmental Engineering, Allen Medine, et al, eds., 1983), p625-634.

A Practical Evaluative Procedure for the Design of Coastal Wetland Restoration Projects, David D. Smith, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1477-1487.
Salt Marsh Restoration: The Experimental Approach, Joy B. Zedler, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), p2578-2586.

Reconstruction

Excerpts from: Rebuilding America--Financing Public Works in the 1980s, Roger J. Vaughn, CE Sept. 83,

Marine Terminal Modifications Port of Albany, New York, David R. Carchedi and David L. Porter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p584-598.

Modernization of a Breakbulk Terminal to an Omni-Terminal at the Port of Long Beach, Charles F. Connors, (Proceedings of Ports 83, Kong Wong, ed., 1983), p802-815.

Modernization of Grain Elevators, Randall G. Oustalet, (Proceedings of Ports 83, Kong Wong, ed., 1983), p745-748.

Outlook Good for Rehab of Nations Bridges, CE Sept.

83, p20.

Port of New Orleans Upgrading of Facilities at First Street Wharf, Alan Francingues and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983), p352-363.

Port of Portland Terminal Reconstruction Program,

Port of Portland Terminal Reconstruction Program, Margery Post Abbott, (Proceedings of Ports 83, Kong Wong, ed., 1983), p74-83.

Reconstruction of a Grain Loading Jetty with Minimum Downtime, Kurt Helin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p704-716.

Reconstruction vs. New Construction, Stanley L. Maisel and William J. Funge, (Proceedings of Ports 83, Kong Wong, ed., 1983), p42-50.

Social and Environmental Impacts: Edens Project, Henry M. Yamanaka, TE Sept. 83, p721-732.

Wharf Rehabilitation Rodney Terminal Port of Saint

Wharf Rehabilitation Rodney Terminal Port of Saint John, New Brunswick, Canada, Garnet A. Phinney and S. Reid Giffin, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p456-470.

California State Parks: The Marine Program, Charles Mehlert, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1544-1549

Surfing Interests in Coastal Zone Planning, Tom Pratte, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p2683.

Underwater Parks—A Management Challenge, Ron Russo, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1535-1543.

Recreation demand

Recreation Demand for Five Galveston Island, Texas Beach Segments, James M. Kieslich and Lynwood G. Weiss, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2173-2185.

Recreation facilities

Design and Calibration of False Bay Sediment Model,

J. S. Schoonees and J. P. Moller, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1161-1180.

Design of Coastal Structures for Recreational Purposes.

Design of Coastal Structures for Rectational Fagineering G. H. O'Connell, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2514-2533.

Mission Viejo Dam and Lake: Centerpiece of Big

Mission viejo Dam and Lake: Centerprece of Dig Development, CE June 83, p14. A Survey of Man-Made Tidal Swimming Pools Along the South African Coast, D. E. Bosman and D. J. P. Scholtz, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2504-2513.

Recreational facilities

Down to the Sea in Pleasure Piers, Wesley Marx, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1865-1881.

Sport Divers and Their Preferred Coastal Settings, Mick R. E. Matheusik and Allan S. Mills. (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1488-1506.

Recruiting

Human Resource Management: Turnover or Reten-tion, Raad H. Hermes, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p40-46.

Personnel: Recruiting, Motivating, Rewarding, 1983, 87pp.

Rectangular hollow sections
Double Chord RHS Trusses: Analytical Model,
Farooque A. Mirza and Robert M. Korol, ST Dec.
83, p2812-2828.

Reefs

Laboratory Study of Reef-Lagoon System Hydraulics, William N. Seelig, WW Nov. 83, p380-391.

Refuse Derived Fuel

Cofiring of RDF at the C. P. Crane Station: 1980 Test Results and Future Plans, R. H. Bourquin, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p853-860.

Refuse dis

Hauling Distance and Transfer Station Location, Ely Anthony R. Ouano, EE Dec. 83, p1429-1433. Instabilities in Air Classification of Fuels, Jeffrey E

Taub and J. Jeffrey Peiree, EY June 83, p74-87. Land Suitability Analysis: Landfill Sting, William N.
Lane and Robert R. McDonald, UP May 83, p50-61.
Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-1100.

Regional analysis

Water Yield Estimation in Western United States, Mark E. Hawley and Richard H. McCuen, IR March 82, p25-34.

Regional development
Balancing Development and Environmental Concerns
in the Coastal Zone of New Jersey, Gary L. Bickle, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1120-1135.

Regional planning

Land Suitability Analysis: Landfill Siting, William N. Lane and Robert R. McDonald, UP May 83, p50-61. Minnesota's Hazardous Waste Siting Criteria, Alan P. Shilepsky and Robert B. Pulford, WR Apr. 83, p165-173.

Predicting Future Water Demand, Robert M. Clark, James A. Goodrich and James I. Gillean, EE Dec. 82,

p1248-1264.

The Public Be Damned-Grays Harbor Revisited, David E. Ortman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1694-1713.

Magoon, et al., cus., 1983), p1094-1713.
Regional Port Plans: Government without Regulations,
Robert H. Wardwell, (Coastal Zone '83, Orville T.
Magoon, et al., eds., 1983), p336-348.
Regional versus Local Water Supply Planning, James E.
Crews, WR Apr. 83, p179-185.

Registration

Foreign Corporation Registration, CE July 83, p26.

Regression analysis

Proportioning of Concrete Using Regression Analysis,

Sukhvarsh Jerath, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983), p1055-1058.

Regulation

Is Integrated Environmental Management Feasible?

Neil S. Grigg, El Apr. 83, p71-80.

Managing Coastal Conflict: A Federal Permit Role?

Radford S. Hall, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p1136-1141.

One Uses His Umbrella When It Rains, Kenneth A.

Roe, El Apr. 82, p166-171.

Regulation and Planning for Coastal Access, Laurie J. Flowers, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p112-121.
Wetland Regulation in California: A Review, Mary Laurel Marcus, Nona B. Dennis and Harriet L. Hill, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2725-2738.

Enforcement in California's Coastal Regulatory Agen cies, Steven A. McAdam, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1666-1693.

Features of Federal Laws that Encourage Adoption of

Land Application of Wastewater, Dean T. Massey,

WR Apr. 83, p121-133.
New England Division's General-Permit Methodology, James P. Crawford and Alan D. Randall, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p.2054-2072.

OSHA Regulations Effect on Construction, Enno Kochn and Kurt Musser, CO June 83, p.233-244.

Regulatory Reform and Good Government, Morgan R. Rees, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2045-2053.

Rehabilitation

Crib Wharf Cargo Dock Over Sunken Tube Tunnel, J. Kenneth Jarboe, (Proceedings of Ports 83, Kong Wong, ed., 1983), p717-729.

Economic and Technical Options for Obsolete Marine Terminals, Victor V. Calabretta and Robert H. Wardwell, (Proceedings of Ports 83, Kong Wong, ed., 1983), p30-41.

The Evolution of Prefabrication in Marine Structures,

Charles W. Nelson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p471-479. Excerpts from: Rebuilding America-Financing Public Works in the 1980s, Roger J. Vaughn, CE Sept. 83, Infrastructure Rehab Calls for Civils, CE Feb. 83, p74.

Lincoln Tunnel Authority Refurbishes Aging Road-

bed, CE June 83, p18.

Long-Span Bridge Computer Modeling, Thomas A.
Fisher and Ramesh B. K. Rao, ST June 83, p1402-1413.

Modernization of Castle Island Marine Terminal,

Modernization of Castle Island Marine Terminal, Morris S. Levy and David B. Weiner, (Proceedings of Ports 83, Kong Wong, ed., 1983), p649-661. Modifications to Oil Handling Berths at Bayonne, N.J., Thomas R. Van Wart and Jeff Easthope, (Proceedings of Ports 83, Kong Wong, ed., 1983), p772-787. New York's MTA Raises \$8.5 Billion for Mass Transit,

Allen Morrison, CE July 83, p42-45.
On Infrastructure (ltr.), P. E. Cunningham, CE Feb. 83, p22.

Optimization of Irrigation Systems Rehabilitation Planning, Kyung H. Yoo and J. R. Busch, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p391-398.

Outlook Good for Rehab of Nations Bridges, CE Sept. 83, p20.

83, p20.

Pavement and Bridge Rehab Covered at Fort Worth Conference, Daniel Dake, CE Aug. 83, p60.

Planning Redevelopment and Modernization-Port of Oakland, Paul H. Sorensen, (Proceedings of Ports 83, Kong Wong, ed., 1983), p62-73.

Port of New Orleans Upgrading of Facilities at First Street Wharf, Alan Francingues and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983), p352-363.

p352-363. Reconstruction vs. New Construction, Stanley L.

Maisel and William J. Funge, (Proceedings of Ports 83, Kong Wong, ed., 1983), p42-50.
Rehab Assembly to Convene, CE Oct. 83, p95.
Rehabbing Historic Buildings, CE Oct. 83, p56-59.
Rehabilitation of a Wharf, H. Thomas Kornegay and Klaus Yon Dobeneck, (Proceedings of Ports 83, Kong Wong, ed., 1983), p749-757.
Rehabilitation of Cyclopean Concrete Wharf, Rodney B. Lundin (Proceedings of Ports 83, Kong Wong, ed.

P. Lundin, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p816-827. Rehabilitation of Failed Steel-Sheetpile Bulkheads, John S. Horvath and James T. Dette, (Proceedings of Ports 83, Kong Wong, ed., 1983), p178-186. Rehabilitation of Steel-Sheet Pile Bulkhead Walls,

Rehabilitation of Steel-Sheet Pile Bulkhead Walls, Casimir J. Kray, (Proceedings of Ports 83, Kong Wong, ed., 1983), p187-199.
Restoration, CE June 83, p41-43.
The Role of Marine Fenders for Repairing, Upgrading, and/or Rehabilitating Existing Facilities, Khoji Asayama and Toshitaka Ohtsuka, (Proceedings of Ports 83, Kong Wong, ed., 1983), p543-554.
The Senate Considers Rebuilding America, Frank D. Musica CE Jun. 83, p124

Musica, CE Jan. 83, p124.

Sewers: Repairing Beats Replacing, Allen Morrison, CE Sept. 83, p60-64.

Upgrading of Facilities at Napoleon Avenue Wharves of Napoleon Avenue Wharves of Napoleon Avenue Wharves of Napoleon (Proceedings of Napoleon Napo Alfonso Arsuaga and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983), p343-351.

Value Engineering (ltr.), Howard Ellegant, CE Sept. 83,

p28. West Breakwater-Sines Overview of Rehabilitation and Synthesis of Project, J. F. Toppler, A. Steenmeyer, M. A. Goncalves da Silva, H. Ligteringen and F. Silveira Ramos, (Coastal Structures '82, J. R. Weggel, ed.,

ramos, (Coastal Structures '82, J. R. Weggel, ed., 1983), p3-16.
West Breakwater-Sines Study of Armour Stability, A. Mol, H. Ligteringen, R. L. Groeneveld and C. R. A. M. Pita, (Coastal Structures '83, J. R. Weggel, ed., 1983), p57-70.

West Breakwater-Sines Wave Climatology, Arthur E. Mynett, Willem J. P. de Voogt and Edward J. Schmeltz, (Coastal Structures '83, J. R. Weggel, ed., 1983), p17-30. Wharf Rehabilitation Rodney Terminal Port of Saint

John, New Brunswick, Canada, Garnet A. Phinney and S. Reid Giffin, (Proceedings of Ports 83, Kong

Wong, ed., 1983), p456-470.

Reinforced earth

Mechanics of Fiber Reinforcement in Sand. Donald H. Gray and Harukazu Ohashi, GT March 83, p335-353. Plastic Limit Behavior of Reinforced Earth, Andrzej Sawicki, GT July 83, p1000-1005. Radial versus Parallel Tie Arrays in Earth Backfills,

Donald H. Gary and James Lott, GT July 83,

Reinforced Soil Beams, K. J. Gaind and A. N. R. Char, GT July 83, p977-982.

Reinforcement

Computer-Simulated Flexural Tests of Partially Prestressed Concrete Sections, M. Z. Cohn and M. Bartlett, ST Dec. 82, p2747-2765. Concrete Plate Reinforcement: Frictional Limit Design

Zdenek P. Bazant and Chuan Lin, ST Nov. 82,

p2443-2459.

Deformation of Cracked Net-Reinforced Concrete Walls, Zdenek P. Bazant and Byung H. Oh, ST Jan. 83, p93-108.

Drained Axisymmetric Loading of Reinforced Clay, Terence S. Ingold and Keith S. Miller, GT July 83, p883-898.

Restoration, CE June 83, p41-43.

Reinforcing steels
Wind-Buckling Approach for R/C Cooling Towers,
Wolfgang Zerna, Ihsan Mugan and Walter Steffen, EM June 83, p836-848.

Number of Tests versus Design Pile Capacity, Leslie G. Jaeger and Baidar Bakht, GG June 83, p821-831.
Reliability Design of Transmission Lines for Wind, H.
Scott Norville, Kishor C. Mehta and W. Pennington

Vann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p887-890.

Reliability of Antenna Structures, S. H. Wang, J. T. P. Yao and W. F. Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p855-858. Reliability of Chain and Ductile-Parallel Systems, Mircea Grigoriu, EM Oct. 83, p1175-1188.

Reliability-Based Progressive Fatigue Collapse, Scott G. Martindale and Paul H. Wirsching, ST Aug. 83, p1792-1811.

Reliability analysis Advances in Risk and Reliability Analysis for Hydraulic Structures, Han-Lin Lee and Larry W. Mays, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p467-473.

Application of Reliability Methods in Design and Analysis of Offshore Platforms, Committee on Reliability of Offshore Structures of the Committee Rehability of Offshore Structures of the Committee on Structural Safety and Reliability of the Structural Division, ST Oct. 83, p2265-2291.

Approximate Reliability Analysis, Mircea Grigoriu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p867-870.

Basic Analysis of Structural Safety, M. Shinozuka, ST

March 83, p721-740.
Fundamental Postulate in Structural Safety, Ove

Pundamental Postulate in Structural Safety, Ove Ditlevsen, EM Aug. 83, p1096-1102. General Structural System Reliability Analysis, R. M. Bennett and A. H. -S. Ang. (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p839-842.

On Reliability and Active Control of Tension Leg Platforms, Zolan Prucz and Tsu T. Soong, (Recent Advances in Engineering Mechanics and Their Impact

on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p903-906.
On the Evaluation of Collapse Probabilities, M. J. Grimmelt, G. I. Schueller and Y. Murotsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p859-862.

Random Processes in Engineering Mechanics, M. Shinozuka, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al, eds., 1983), p18-46. Reliability Analysis of Reinforced Concrete Columns Based on ACI 318-77, Chandrasekhar Putcha and Faramarz Mokri-Argane, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p932-935.

Reliability Based Optimum Design of Concrete Frames, Adang Surahman and Kamal B. Rojiani, ST March 83, p741-757.

Reliability of Parallel Systems under Imposed Uniform Strain, M. Hohenbichler and R. Rackwitz, EM June 83, p896-907.

Reliability of Parellel Structural Systems, Robert E. Melchers, ST Nov. 83, p2651-2665. Risk Assessment for Offshore Structures: A Review,

Erik Vanmarcke and Demosthenes Angelides, ST

Feb. 83, p555-571. Seismic Reliability of Existing Buildings, Haresh C. Shah and Weimin Dong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p923-927.

Remote sensing
Landsat and Water Quality Model Verification, Donald
Steven Graham and John M. Hill, TE Sept. 83,

p640-650. Operational Oil Spill Detection and Mapping, Michael E. Kirby and Thomas T. Alfoldi, (Coastal Zone '83,

Orville T. Magoon, et al, eds., 1983), p1411-1426. Remote Sensing Characterization of Nigerian Soils, Samuel Uche Ejezie, Thomas D. O'Rourke and

Kingsley Harrop-Williams, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p332-350.

Status of Remote Sensing for Coastal Zone Management, Douglas Stow and John Estes, (Coastal Zone '83. Orville T. Magoon, et al, eds., 1983), p565-574.

'83, Orville T. Magoon, et al, eds., 1983), p565-574. Volume-Accuracy Relationship in Soil Moisture Sampling, Mark E. Hawley, Richard H. McCuen and Thomas J. Jackson, 1R March 82, p1-11. Water Quality Monitoring of Eastern Sicily's Coastal Zone near Taormina Using Remote Sensing Techniques, Alberto L. Geraci and Tommaso Caltabiano, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p194-205.

Renovating Highway Safety and R-R-R, Gerald Donaldson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p130-137. Modernization and Upgrading of Port and Marine Facilities, E. Sorrell Lanier, Proceedings of Ports 83,

Kong Wong ed., 1983), p364-372. Old Suspension Bridges Under Renovation, CE July 83,

Park Service Considers Facelift for Miss Liberty, CE July 83, p24.

Proceedings of Ports 83, Kong Wong, ed., 1983, 832pp. Rehabbing Historic Buildings, CE Oct. 83, p56-59.

Renovation

Dock Renovation in Corpus Christi-Aspects of Fendering, James A. Shiner and William F. Goldston, (Proceedings of Ports 83, Kong Wong, ed., 1983), p612-620.

Jetty 8 Renovations CFB Dockyard, Halifax, N.S., Peter J. Barry, (Proceedings of Ports 83, Kong Wong, ed., 1983), p788-801.

Mall, CE June 83, p54-55.

Repairing
Marine Parkway Bridge Truss Member Replacement,
Robert A. Martin and Jerome S. B. Iffland, ST July 83, p1602-1616.

The Relining of Saiccor's Effluent Outfall, Bernstein Mark, Hugh P. L. Ahrens and Michael D. Smart, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2581-2594.

Sewers: Repairing Beats Replacing, Allen Morrison, CE Sept. 83, p60-64.

Repeated loading

Repetitive Load Deformation of Cohesionless Soil, Vishnu A. Diyaljee and Gerald P. Raymond, GT Oct. 82, p1215-1229.

Research

Dartmouth: First to Open Cold Regions Research Lab, CE Nov. 83, p18.

Engineering Research: Potential for Fraud, Richard H. McCuen, EI July 83, p185-194.

Experimental Facilities at the UK Transport & Road Research Laboratory (TRRL), G. Margason, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p605-608.

Experimental Facilities for Earthquake Research at CTL, Donald M. Schultz, Henry G. Russell and W. G. Corley, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p609-612.

A Glance of Research Facilities in Tsukuba, Japan, Leon Ru-Liang Wang, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p597-600.

Oregon's New Coastal Research Initiative, Robert F. Tarrant and George W. Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1302-1309. Planning and Organization of Research in Building, A.

Warszawski, CO Sept. 83, p261-275.

The Structures Laboratories at Imperial College, London, Patrick J. Dowling and Roger E. Hobbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p601-604.

Texas Research Center Operates Advanced Dynamics Test Facility, CE Dec. 83, p10.

Research and development 1983 R&D Funding May Reach \$83.6 Billion, CE Feb.

Bill Proposes Aid for U.S. R&D Ventures, CE July 83,

p22.
Diffusion of Network Planning in Construction, David Arditi, CO March 83, p1-12.
Is Federal Energy R&D All That Counts? Joel

Rosenblatt, CE June 83, p6. The Reagan Energy Policy vs. Its Critics, CE Jan. 83,

Reagan's Lopsided Energy R&D Policy: Peril to U.S. Security? Eugene E. Dallaire, CE Jan. 83, p56-67.

Research management
Planning and Organization of Research in Building, A.
Warszawski, CO Sept. 83, p261-275.

Research needs

Basic Research Needs in Construction Engineering Robert I. Carr and William F. Maloney, CO June 83,

Fatigue Research at the University of Illinois, William J. Hall, Frederick V. Lawrence and James E. Stallmeyer, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p3-23.
Proceedings of the Conference on Stormwater Deten-

tion Facilities, William DeGroot, ed., 1982, 431pp. Research Needs of Water Utilities Related to Groundwater Contamination, James F. Manwaring, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p34-40.
Urban Runoff Quality: Information Needs, Michael B.
Sonnen, TC Aug. 80, p29-40.

Reservoir design Estimation of Water Demands Using Deficit Analysis, Robert M. Clark, James A. Goodrich and James I. Gillean, WR Oct. 83, p271-286.

Reservoir operation

Accomplishments and Impacts of Arkansas River Basin, Ross R. Copley, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al., eds., 1983), p76-86.

Accomplishments and Impacts of Reservoirs, Gordon G. Green, ed. and Earl E. Eiker, ed., 1983, 235pp. The Influence of Dam Failure Probabilities on Spillway Analysis, David E. Langseth and Frank E. Perkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p459-464.

Reservoir Management in the Delaware River Basin,

Gerald M. Hansler and Robert L. Goodell, (Accom-

plishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p180-190. Reservoir Operation by Linear and Dynamic Programming, Miguel A. Marino and Behzad Mohammadi, WR Oct. 83, 2030-319.
Revising Reservoir Operation Enhances Instream Uses,

Revising Reservoir Operation Enhances Instream Uses, Wayne S. Gentry, (Advances in Irrigation and Drain-age, John Borrelli, ed., 1983), p446-453.
Risk Evaluation in Reservoir Operations, Walter O.
Wunderlich and James E. Giles, (Frontiers in Hy-draulic Engineering, Hung Tao Shen, ed., 1983), p480-485. p480-485.

Reservoir performance Reservoir-Induced Macroearthquakes: A Reassessment, Ronald B. Meade, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983),

Reservoir sites

Inverse Condemnation, County Regulation, CE Jan. 83, p14.

Reservoir storage Central and Southern Florida Project, A. G. Holler and O. C. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p152-165. Impact of Storage Reservoirs on the Eastern Front Range of Colorado, Larry D. Simpson, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p87-93.

Reservoir system regulation
Data Automation for Water Supply Management,
Robert J. Sutter, Ronald D. Carlson and Dan Lute, WR July 83, p237-252.

Fifty Years of Operation of the TVA Reservoir, Bevan W. Brown and Robert A. Shelton, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds.,

and Impacts of Reservoirs, Union Green, et al., et al., 1983), p138-151.

A Privately Owned/Operated Reservoir/River System, William M. Grove, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al., eds., 1983), p166-179.

Regulation of Missouri River Main Stem Reservoirs, Duane J. Sveum and George A. Patenode, (Accomplishments), Gordon Green, et al., eds., page 1888-1889. plishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p94-108.

Accomplishments and Impacts of Reservoirs, Gordon Accomplishments and Impacts of Reservoirs, Gordon G. Green, ed. and Earl E. Eiker, ed., 1983, 235pp. Asymptotic Solution for Dam Break on Sloping Channel, Bruce Hunt, HY Dec. 83, p1698-1706. Asymptotic Solution for Dam-Break Problem, Bruce Hunt, HY Jan. 82, p115-126. Boundary Element Analysis of Fluid Domain, Youssef G. Hanna and Jagmohan L. Humar, EM April 82, 4216 456.

p436-450.

Choke Canyon Reservoir: Estuarine Impacts and Management, Nicholas A. Funicelli and Norman G. Benson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2866-2876.

Conservatism of Probable Maximum Flood Estimates Bi-Huei Wang and Russell W. Revell, HY March 83,

Estimation of Soil Erosion in India, Dhruva V. V. Narayana and Ram Babu, IR Dec. 83, p419-434. Estimation of Water Demands Using Deficit Analysis, Robert M. Clark, James A. Goodrich and James I. Gillean, WR Oct. 83, p271-286.
Finite Element Analysis of Reservoir Vibration, Jagmohan Humar and Magdy Roufaiel, EM Feb. 83,

p215-230.

Flexible Dams Inflated by Water, Nicholas Manville Hitch and Rangaswami Narayanan, HY July 83, p1044-1048.

p1044-1048.

Hiwassee Pumped-Storage Temperature Study, Russ T.

Brown and Ming C. Shiao, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p386-391.

Integrated Sizing of Water Storage and Conveyance,

David E. Fleming, Roger K. Hanson and John W.

Labadie, WR Jan. 83, p94-111.

Landsat and Suspended Sediment in Reservoir, Scott A.

Morris and Chin Y. Kuo, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p598.

LARM Two-Dimensional Model: An Evaluation, John

A. Gordon, EE Oct. 81, p877-886.

Lissimine FF Fluorescent Dye, Dennis E. Ford and

Kent W. Thornton, EE Aug. 83, p952-955.

Monolithic Covers for Water Storage Reservoirs, Lorrin

Pittendreigh, CE July 83, p14.

Monolithic Covers for Water Storage Reservoirs, 201111 Pittendreigh, CE July 83, p14. Optimal Operation of Multiple Reservoir Systems, Quentin W. Martin, WR Jan. 83, p58-74.

Piezometer Installation under Artesian Conditions, Kulbhushan L. Logani, GT Aug. 83, p1121-1125. Post-Audit of Lake Model Used for NPS Management, John P. Hartigan, John A. Friedman and Elizabeth Southerland, EE Dec. 83, p1354-1370. Reaeration and Vertical Diffusion of Lake Oxygen,

Reaeration and vertical Diffusion of Lake Oxygen, William J. Snodgrass, EE Dec. 83, pl419-1423.
Reliability of Dam-Reservoir during Random Earthquake, Cheng Yi Yang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), apr 275-278. p875-878

Reservoir Circulation Patterns and Water Quality, Byung R. Kim, John M. Higgins and David J. Bruggink, EE Dec. 83, p1284-1294. Reservoir Modeling to Develop AWT Nitrate Standard,

John P. Hartigan, EE Dec. 83, p1243-1258. Revaluation of Oxygen Regimes in Fontana Reservoir,

William J. Snodgrass, EE Dec. 83, p1424-1429. Short-Term Hydrodynamics in a Stratified Reservoir, John A. Gordon and J. Steven Lane, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p524-531.
Simulating Advective Transport in Reservoirs, Mark S.
Dortch and William L. Boyt, (Frontiers in Hydraulic

Dortch and William L. Boyt, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p21-26. Vertical Circulation in Density-Stratified Reservoir, Zygmunt Meyer, HY July 82, p833-873. Water Quality Mitigation at a Pumped Storage Plant, Alan Milton, E. Eric Adams, John H. Mason, Belmonte P. Cucolo and John W. Blake, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p516-523.

Resident engineers
Project Management Communications, Raynold O.

Folland, El Jan. 83, p39-44.

Resident Engineering in Power Plant Construction,
Clyde B. Tatum and Thomas E. Cottrell, CO June 83, p224-232.

Residential streets

Visual Intrusion Impact of Residential Traffic, Gerald R. Brown and Donald F. Park, TE Sept. 82, p468-483.

Characteristics of Guri Soils, Z. Prusza, D. E. Kleiner and A. V. Sundaram, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p183-199.

Engineering Properties of Tropical Residual Soils, James K. Mitchell and Nicholas Sitar, (Engineering and Construction in Tropical and Residual Soils,

Geotechnical Engineering Division, 1982), p30-57.
Geological Factors Affecting Laterite Gravels, E. Krinitzsky and F. C. Townsend, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p137-149.

Geotechnical Properties of Residual Tropical Soils, R. A. Lohnes and T. Demirel, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983),

Resilient Characteristics of Brazilian Soils, Jacques de Medina and Ernesto S. Preussler, GT May 82, p697-712.

Residual strength

Residual Strength of Impacted SMC Composites, Shive K. Chaturvedi and Robert L. Sierakowski, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p495-498.

Residual stress

Behavior of Steel Columns: A Comprehensive Treatment, Reidar Bjorhovde and Wai-Fah Chen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p85-102.

Column Buckling Theory: Historic Highlights, Bruce G. Johnston, ST Sept. 83, p2086-2096.

Residual Stress and Rebound Deformation in Curved Glulam Timber Members, Vijaya K. A. Gopu, Shyam N. Prasad and Sanjay V. Sohoni, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p399-402

Resistance

Cavitation Resistance of Concrete Structures, Ernest K. Schrader, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p419-424. Code Comparisons of Factor Design for Wood, James

R. Goodman, Zsolt Kovacs and Jozsef Bodig, ST

Aug. 81, p1511-1527.

Risk Analysis Procedure for Code Optimization, Andrzej S. Nowak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p851-854.

Resistance coefficients

Reliability-Based Design of Wood Transmission Line Structures, James R. Goodman, M. Daniel Vanderbilt and Marvin E. Criswell, ST March 83, p690-704.

Resonance in South African Harbours, W. A. M. Botes. K. S. Russell and P. Huizinga, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p439-453.

Resource allocation

Connecticut Embayments Study: A Basis for Allocating State and Local Resources for Coastal Management State and Local Resources for Coastal Management in the 1980's, James M. Sempere and Dana C. Rowan, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2251-2268. Green Harbor River (MASS), CZM Feasibility Studies, Raymond S. Niedowski and Michael L. Scheffler, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p1310-1329.

Integrated Management of San Diego Bay: A Socio-Ecological Challenge, Tomas E. Firle, (Coastal Zone 23, Orville T. Magoon, et al, eds., 1983), p1714-1733. Legal Impediments to Coastal Aquaculture, Steven J. Shupe, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1550-1571.

Managing Conflict in the Coastal Zone, Geoffrey H. Ball and Charlotte Symons, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1330-1339. Methods Used to Evaluate Highway Improvements, James M. Witkowski, TE Nov. 83, p769-784.

Resource Sharing in Linear Construction, Srilal Perera, CO March 83, p102-111.

Resource conservation
Assessing and Managing Coral Reef Visual Resources, Kerry J. Dawson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1507-1517.

Conserving the Coastal Resources of East Africa, Daniel P. Finn, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1823-1839.

Developing a Coastal Management Constituency, Sandra Barrett, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2163-2172.

ise spectra

1973 NRC Design Spectrum, Bijan Mohraz and Fawzi E. Elghadamsi, EY March 83, p37-42.

Calculation of Power Spectra from Response Spectra, Dieter D. Pfaffinger, EM Feb. 83, p357-372. Computation of Inelastic Response Spectra, James M.

Nau, EM Feb. 83, p279-288.

Independent Three-Dimensional Shake Table Excitation and Its Future in Nuclear Power Qualification Programs, John C. Stoessel, Paul Ibanez, R. Steve Reowen and Peter E. Rentz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p630-633.

Response Spectrum Approach to Design for Waves, A. S. Veletso, G. Hahn and R. Bordinhao, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p295-298.

Response Spectrum Method for Systems with Non-Classical Damping, Takeru Igusa and Armen Der Kiureghian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p380-384. Seismic Design Charts for Coupled Shear Walls, Amiya K. Basu, ST Feb. 83, p335-352.

Responsibility

Responding to the Challenges of Engineering Practice, Adolph J. Ackerman, El Apr. 80, p137-159.

Tests on Tubular Columns with Variable End Restraint, David A. Ross, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1134-1137. Restraint systems

Pipe Restraints: Design Fallacies, Patrick J. Creegan, TE Nov. 83, p840-852.

Retaining walls Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038.

Design of Pressure-Treared Wood Bulkheads, James S. Graham, (Coastal Structures '83, J. R. Weggel, ed., 1983), p286-294.

Excavation Stabilized Using Rock Revetments, Dennis J. Garbis, GT March 83, p424-439. Initial Value Problems of Soil Mechanics, Jey K. Jeyapalan and Mark Lamborn, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et ai, eds., 1983), p527-530.

Overall Stability of Anchored Retaining Walls, William F. Anderson, Thomas H. Hanna and Magued N. Abdel-Malek, GT Nov. 83, p1416-1433.

Radial versus Parallel Tie Arrays in Earth Backfills,

Donald H. Gary and James Lott, GT July 83,

p982-986.

Seismically Induced Movement of Retaining Walls, Farrokh Nadim and Robert V. Whitman, GT July 83, p915-931.

Total Lateral Surcharge Pressure Due to Strip Load, Ramon Jarquio, GT Oct. 81, p1424-1428.

Questions and Answers about IRA's, CE Feb. 83,

Return flow

Chemical Reactions within the Root Zone, J. D. Oster and K. K. Tanji, (Advances in Irrigation and Drainage,

John Borrelli, ed., 1983), p399-408. Groundwater Quality Studies in California, Kenneth D. Schmidt and Irving Sherman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p183-191. Groundwater Studies in New Mexico and Arizona, George V. Sabol, Herman Bouwer and Peter J.

Wierenga, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p192-199.

Land Application of Wastewater: Water Rights Issues,
Craig Bell, William E. Cox and Glen Fiedler, WR

Oct. 83, p287-302.

Modeling of Return Flow in a Water Rights Transfer,
Donald K. Frevert and Wynn R. Walker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

Nonpoint Contributions from Subsurface Drains, J. C. Guitjens and P. -S. Tsui, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p320-327.

Revegetation

Glenwood Canyon I-70: Environmental Concern, Ralph J. Trapani and Eric A. Beal, TE May 83, p403-413.

Marsh Restoration with Natural Revegetation: A Case Study in San Francisco Bay, Phyllis Faber, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p729-734.

Nitrogen-Fixing Plants for Coastal Management, W. N. Tiffney, Jr. and D. E. Eveleigh, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p102-111.

The Behavior of Prototype Boulder Revetment Walls, A. W. Smith, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1914-1929.
Excavation Stabilized Using Rock Revetments, Dennis J. Garbis, GT March 83, p424-439.

Homer Spit: Littoral Drift and Degradation, Dennis Nottingham, Brent T. Drage, Jeffrey Gilman and Jeanne Adams, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2343-2360.

Large Scale Model Tests on Placed Blocks Revetment, K. den Boer, C. J. Kenter and K. W. Pilarczyk,

(Coastal Structures '83, J. R. Weggel, ed., 1983), p307-319.

Reynolds num Flow Resistance in Wide Rectangular Channels, W. R. C. Myers, HY April 82, p471-482.

Analyses of Flow Failures of Mine Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton Seed, GT Feb. 83, p150-171. Erosion Resistance of Cohesive Soils, William E. Kelly

and Ronald C. Gularte, HY Oct. 81, p1211-1224.

On Frontier between Rheology and Mudflow Mechanics, Cheng-lung Chen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), pl13-118. Rate Process Parameters for Erosion and Shear, William E. Kelly, Richard M. Heavers and Gregory

Gardner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p102-106.

Riffles
Bed Material Sorting in Pools and Riffles, Nani G.
Bhowmik and Misganaw Demissie, HY Oct. 82,

Rigging Heavy Rigging for Nuclear Projects, Clyde B. Tatum, CO March 83, p48-60.

Right of way, land Location of Railroad Boundaries, Andrew C. Kellie, A. Essam Radwan and Dewey R. Houck, II., SU March

Right-of-way

Utility Corridors for Pipeline Construction, Ralph H. Sandmeyer, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p420-430.

Elastic Critical Loads on Multistory Rigid Frames, Esmat S. Awadalla, ST May 83, p1091-1106. Exact Buckling and Frequency Calculations Surveyed, Frederic W. Williams and William H. Wittrick, ST

Jan. 83, p169-187.

Internal Force Distribution Effect on Framework Stability, George D. Manolis and Dimitrios E. Beskos, ST Jan. 83, p250-257.

Large Deflection and Stability of Rigid Frames, Riyad K. Qashu and Donald A. DaDeppo, EM June 83, p765-780.

Reliability of Nonlinear Framed Structures, Tai-Yan Kam, Rose B. Corotis and Edwin C. Rossow, ST July 83, p1585-1601.

Reliability of Parellel Structural Systems, Robert E.

Melchers, ST Nov. 83, p2651-2665. Skyscraper Design (*ltr.*), Morton H. Eligator, CE Dec. 83, p22.

Rigid pavements

Comparative Analyses of Rigid Pavements, Yu T.

Chou, TE Sept. 83, p669-688. Subgrade Contact Pressures under Rigid Pavements, Yu T. Chou, TE May 83, p363-379.

Rigid pipes
Experimental Study of Earth Loads on Rigid Pipes,
Experimental Study of Earth Loads Elmer L. Matyas and John B. Davis, GT Feb. 83,

Load Reductions on Buried Rigid Pipe, Lawrence C. Rude, TE Jan. 83, p107-123.

Pipe Whip Analysis Using a Rigid Plastic Pipe Model, M. B. Atalay, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 9718-721.
Prediction of Vertical Earth Loads on Rigid Pipes,

Elmer L. Matyas and John B. Davis, GT Feb. 83, p190-201.

Rigid-body dynamics

Dynamic Response of Rigid Foundations by the Time Domain B.E.M., C. C. Spyrakos, D. L. Karabalis and D. E. Beskos, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al., eds., 1983), p170-175.

Dynamic Response of Rigid Prism Assemblies, Robert
H. Allen, Jacobo Bielak and Irving J. Oppenheim, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p142-145.

Dynamics of Rigid Guns with Straight Tubes, H. L.

Langhaar, A. P. Boresi, R. E. Miller and A. S. Elder, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p226-229.

Seismic Displacement Analysis of Earth Dams, Sarada K. Sarma, GT Dec. 81, p1735-1739.

Rill erosion

Sediment Dynamics in Unsteady Nonprismatic Rills, Thomas E. Croley, II, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p127-132.

Rings
Creep Crack Growth in a Ring Specimen, Michael H.
Bohun and Theodore Nicholas, (Recent Advances in
Their Impact on Civil Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983). p644-647.

Riprap

Prototype Tests on Riprap under Random Wave Attack, J. D. Pitt and P. Ackers, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1820-1836.

Insurance As a Risk Management Tool, H. Joseph Coughlin, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2650-2654.

A Three-Dimensional Model of Bering and Chukchi Sea, Shiao-Kung Liu and Jan J. Leendertse, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p598-616.

Advances in Risk and Reliability Analysis for Hydraulic Structures, Han-Lin Lee and Larry W. Mays, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p467-473.

Critique - Conceptual Estimating, Risk Analysis and Cost Planning, Daniel W. Halpin, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et

al, eds., 1983), p1-5. Critique - Cost Control and the Owner, Rodney E. Cox, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p202-206. Dam Safety and Risk-Based Decision Analysis, Chih

Ted Yang and Thomas A. Luebke, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p475-479.

Dam Safety-An Overview of a Risky Business, William S. Bivins, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p445-450.

Owner Management of Risk in Construction Contracts, Palmer H. Graham, (Current Practice in Cost Esti-mating and Cost Control, Victor F. Spruill, et al, eds., 1983), p207-215

Probabilistic Analysis of Tornado Wind Risks, Law-rence A. Twisdale and William L. Dunn, ST Feb. 83,

p468-488.

Probabilistic Estimating: Mathematics and Applica-tions, James E. Diekmann, CO Sept. 83, p297-308. Probabilistic Risk Assessment of Existing Dams, Haresh C. Shah, Martin W. McCann and Joseph B. Franzini, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p474.

Risk Analysis of Resource Levelled Networks, Thomas Byers and Paul Teicholz, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p178-186.

Risk Analysis Procedure for Code Optimization, Andraej S. Nowak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p851-854. Risk Assessment for Offshore Structures: A Review,

Erik Vanmarcke and Demosthenes Angelides, ST

Feb. 83, p555-571.

Risk Evaluation in Reservoir Operations, Walter O. Wunderlich and James E. Giles, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p480-485

Role of Risk Analysis in Health Policy, Paolo Ricci, Abe Silvers and Ronald Wyzga, (Emerging Ener-gy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al., eds., 1983), p19-23.

Seismic Risk Analysis of Structural Systems, Armen Der Kiureghian, EM Dec. 81, p1133-1153. Wind Loading Risks from Multivortex Tornadoes, Lawrence A. Twisdale and William L. Dunn, ST Aug. 83, p2016-2022.

Construction Risk: Multivariate Approach, C. William Ibbs, Jr. and Keith C. Crandall, CO June 82. p187-200.

River basin development Accomplishments and Impacts of Arkansas River Basin, Ross R. Copley, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p76-86.

Columbia Basin Reservoirs Accomplishments, Gordon G. Green, Douglas D. Speers and Thomas L. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p56-75.

Multiobjective Approaches to River Basin Planning, Mark Gershon and Lucien Duckstein, WR Jan. 83, p13-28.

River basins

Atchafalayai Management: Opportunities and Prob-lems, Charles Fryling-rJr., (Coastal Zone '83, Orville

T. Magoon, et al, eds., 1983), p2269-2278.

Basin-Wide Impacts of Irrigation Efficiency, L. S. Willardson and R. J. Wagenet, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p522-529.

Improvement of Nonlinear Rainfall-Runoff Model, Otto L. Halves, Linear American and Parket.

Otto J. Helweg, Jaime Amorocho and Ralph H. Finch, HY July 82, p813-822.

Sediment Transport in the Kankakee River Basin,
Misganaw Demissie, Nani G. Bhowmik and J. Rodger Adams, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p600.

River beds

Accuracy of Surface Samples from Gravel Bed Material, Richard D. Hey and Colin R. Thorne, HY June 83, p842-851.
Flow Resistance in Coarse Gravel Bed Rivers, George A. Griffiths, HY July 81, p899-918.
Measurement of Hydrographic Parameters in Large

Pand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, 1983, 81pp.

River crossings
Design for Pipeline Wind Vibration in Arctic Areas, Yee Kwok Lee, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p375-386.

Influence of Northern Pipelines on River Crossing Design, E. K. Yaremko and R. H. Cooper, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Pipeline River Crossings: Operational and Maintenance Aspects, Walfred E. Hensala, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p357-361.

River Flow

Dispersion in Tumbling Flow, S. Beltaos, HY April 82, p591-612

psys-912. Longitudinal Dispersion in Natural Streams, Tom Beer and Peter C. Young, EE Oct. 83, p1049-1067. Main Flow Velocity in Short River Bends, H. J. de Vriend and H. J. Geldof, HY July 83, p991-1011. Meander Bends of High Amplitude, Gary Parker, Panayiotis Diplas and Juichiro Akiyama, HY Oct. 83, p1323-1337.

A Privately Owned/Operated Reservoir/River System, William M. Grove, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p166-179. Reflections on Rivers, Research, and Rouse, John F. Kennedy, HY Oct. 83, p1253-1271.

Resistance Equation for Large-Scale Roughness, James C. Bathurst, Ruh-Ming Li and Daryl B. Simons, HY Dec. 81, p1593-1613.

Resistance of Beauharnois Canal in Winter, Gee Tsang,

HY Feb. 82, p167-186. Sampling Strategy for River Pollutant Transport, Stephen M. Yaksich and Frank H. Verhoff, EE Feb.

83, p219-231. Unsteady River Flow beneath an Ice Cover, M. G. Ferrick and G. E. Lemieux, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p254-260.

Accuracy of Surface Samples from Gravel Bed Material, Richard D. Hey and Colin R. Thorne, HY June

83, p842-851.

Analysis of the Variation of River Stage in the Freezing Season for Some Cases on the Yellow River, Chen Zanting, Sun Zhaochu and Wang Wencai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p248-253.

Dynamic Advective Water Quality Model for Rivers, Keith W. Bedford, Robert M. Sykes and Charles

Libicki, EE June 83, p535-554.

Effects of an Ice Cover-A Conceptual Model, Henry S. Santeford and George R. Alger, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Estimation of Soil Erosion in India, Dhruva V. V. Narayana and Ram Babu, IR Dec. 83, p419-434. Geotechnical Perspective on River Bank Instability, James V. Hamel, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p212-217.

Hydraulic Resistance of River Ice, Hung Tao Shen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p224-229.

Ice Jams, S. Beltaos, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p230-235.

Longitudinal Dispersion in Natural Streams, Tom Beer and Peter C. Young, EE Oct. 83, pl049-1067. Meander Bends of High Amplitude, Gary Parker, Panayiotis Diplas and Juichiro Akiyama, HY Oct. 83,

p1323-1337.

Measurement of Hydrographic Parameters in Large Hydrographic Farameters in Large Sand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, 1983, 81pp.

Measurement of Ice Forces on Structures, D. S. Sodhi and F. D. Haynes, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p139-155. Modeling of Ice Discharge in River Models, Darryl J.

Calkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p285-290. Most Rapid BOD Assimilation in Ganga and Yamuna Rivers, D. S. Bhargava, EE Feb. 83, p174-178.

Public Access on the Hudson: A New Jersey Perspective, Barbara E. Kauffman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p138-144.
Reflections on Rivers, Research, and Rouse, John F.

Kennedy, HY Oct. 83, p1253-1271. River and Lake Ice Processes Relevant to Ice Loads, Robert Gerard, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York:

ASCE, 1983, p121-138.

River Ice Jams: Theory, Case Studies, and Applications, Spyridon Beltaos, HY Oct. 83, p1338-1359.

River-Bend Bank Protection by Submerged Vanes, A. Jacob Odgaard and John F. Kennedy, HY Aug. 83, p1161-1173.

Stage-Frequency Analysis at a Major River Junction, Gary R. Dyhouse, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p492-498.

Statistical Properties of Sediment Movement, Hin-Fatt Cheong and Hsieh-Wen Shen, HY Dec. 83, p1577-

Rivets

Cold-Formed Steel Panels with Riveted Connections, Muzaffer Yener and Richard White, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p565-568.

Roadway Design and the Impact on Safety, David K. Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p23-32. Trident Naval Submarine Base: Planning and Design, John M. Lowe, Jr., UP May 83, p7-20.

Effect of PCC Shoulders on Adjacent Concrete Lanes, Jihad S. Sawan, TE March 83, p312-324.

Road surface roughness

Pavement Management for Large Highway Networks, Walter P. Kilareski and Charles J. Churilla, TE Jan. 83, p33-45.

Spectra of Road Surface Roughness on Bridges, Hideyuki Honda, Yasuo Kajikawa and Tameo Kobori, ST Sept. 82, p1956-1966.

Dynamic Forces in Continuous Slab Railway Tracks, Steven A. Smithers and Levon Minnetyan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p343-346.
Lincoln Tunnel Authority Refurbishes Aging Road-bed, CE June 83, p18.

The Engineer as an Expert Witness, Olin K. Dart, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p103-105.

E. Lipinski, ed., 1983), p103-103.
Experimental Facilities at the UK Transport & Road Research Laboratory (TRRL), G. Margason, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p605-608.
Houston Moves to Unravel Traffic, Merja Lehtinen, CE

Nov. 82, p60-63. Non-Center Line Layout, Frank Pearson, SU March 83. p24-36.

Rock excavation

Rock Engineering: La Grande Complex, Quebec, D. Kent Murphy and Jerry Levay, GT Aug. 82, p1040-1055.

Rock joints
Dynamic Computional Analysis of Openings In Jointed Rock, C. H. Dowding, T. B. Belytschko and H. J. Yen, GT Dec. 83, p1551-1566.

New Models for Rock Joints and Interfaces, Francois E. Heuze and Timothy G. Barbour, GT May 82, p757-776.

Rock masses

Dynamic Computional Analysis of Openings In Jointed Rock, C. H. Dowding, T. B. Belytschko and H. J. Yen, GT Dec. 83, p1551-1566. Stress-Fluid Flow Analysis of Fractured Rocks, Mohamad S. Ayatollahi, Jahan Noorishad and Paul

A. Witherspoon, EM Feb. 83, pl-13.

Rock, material Rock Sockets in Soft Rock, George H. Glos, III and Oliver H. Briggs, Jr., GT Apr. 83, p525-535.

Example Cost of 3-D FEM for Underground Openings, Charles W. Schwartz, Amr S. Azzouz and Herbert H. Einstein, GT Sept. 82, p1186-1191. Ground Response Curves for Rock Tunnels, Edwin T.

Brown, John W. Bray, Branko Ladanyi and Evert Hock, GT Jan. 83, p15-39. Piecewise Linear Yield Criteria in Invariant Form, Robert M. Haythornthwaite, EM Aug. 83, p1016-1022

Possible 'Ductility' in a Material with Planar Discontinuities, Thomas M. Tharp, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p968-971.

tress-Fluid Flow Analysis of Fractured Rocks, Mohamad S. Ayatollahi, Jahan Noorishad and Paul Stress-Fluid

A. Witherspoon, EM Feb. 83, p1-13.

West Breakwater-Sines Dynamic-geotechnical Stability of breakwaters, Frans B. J. Barends, Hans van der Kogel, Frans J. Uijttewaal and J. Hagenaar, (Coastal Structures '83, J. R. Weggel, ed., 1983), p31-44.

Rock properties
Rock Engineering: La Grande Complex, Quebec, D.
Kent Murphy and Jerry Levay, GT Aug. 82, p1040-1055.

Rock structures

New Models for Rock Joints and Interfaces, Francois E. Heuze and Timothy G. Barbour, GT May 82, p757-776.

Subway, CE June 83, p48-49.

Rockfill structures

Wave Protection for an Offshore Runway Extension, Alaska, K. R. Hall, C. I. Rauw and W. F. Baird, (Coastal Structures '83, J. R. Weggel, ed., 1983), p157-170.

Design Charts for Rock Slopes Susceptible to Toppling, Caner Zanbak, GT Aug. 83, p1039-1062.

Straightening of Inelastically Deformed Bars, Furman W. Barton and Richard T. Eppink, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p722-725.

Roof fallures

Mechanical Performance Model for Roofing Membranes, James M. Pommersheim, Robert G. Mathey and James R. Clifton, ST June 83, p1431-1449.
Roofing Failures: A Look at Assembly Materials and Design Details, CE Oct. 83, p20.

Fluctuating Wind Pressures on Low Building Roofs, Theodore Stathopoulos, ST Jan. 83, p266-271. Lateral Stability of Beams with Initial Imperfections, John J. Zahn, EM June 83, p821-835. Mechanical Performance Model for Roofing Mem-branes, James M. Pommersheim, Robert G. Mathey

branes, James M. Pommersheim, Robert G. Mathey and James R. Clitton, ST June 83, p1431-1449. Performance of Cable Trusses under Static Loads, Prem Krishna, Vijaya K. Gupta, Ashok K. Ahuja and Ashok K. Mittal, ST Jan. 82, p265-282. Roof Snow Loads for Structural Design, Michael J. O'Rourke and Ulrich Stiefel, ST July 83, p1527-1537.

Tensegric Shell Behavior, Oren Vilnay and Siong S. Soh, ST Aug. 82, p1831-1845.
Wind Loads on Eaves of Low Buildings, Theodore

Stathopoulas, ST Oct. 81, p1921-1934.

Wind Pressures on Low Buildings with Parapets,
Theodore Stathopoulos, ST Dec. 82, p2723-2736.

Rotary inertia Multiple Mode Nonlinear Analysis of Circular Plates, Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123.

Rotating biological contactor

Kinetics of the Rotating Biological Contactor, Khalil Z. Atasi and Jack A. Borchardt, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p255-263.

Rotating Biological Contactor for Secondary Treatment, The Task Committee on Rotating Biological Contactor Water Pollution Management Committee, Environmental Engineering Division, American Society of Civil Engineers, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p929-968.
Rotating Biological Contactor System Design, Yeun C.
Wu and Ed D. Smith, EE June 82, p578-588.

Secondary Treatment Alternatives Attached Growth Systems, The Task Committee on Rotating Biological Contactor Water Pollution Management Committee, Environmental Engineering Division, American So-ciety of Civil Engineers, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p910-928.

Temperature Effects on RBC Scale-Up, Yeun C. Wu, Ed. D. Smith and Chiu Y. Chen, EE Apr. 83,

Treatment of Saline Domestic Wastewater Using RBCs, Nancy E. Kinner and Paul L. Bishop, EE Aug. 82, p650-664.

Influence of Corner Shear Layers in Rotating Flows, Jey K. Jeyapalan, EM Feb. 83, p244-262.

Roughness coefficient

Roughness Coefficients for Routing Surface Runoff, Edwin T. Engman, (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p560-565.

Roughness, hydraulic

Roughess, ayurum:

Boundary Shear in Smooth and Rough Channels,

Donald W. Knight, HY July 81, p839-851.

Flow Resistance in Coarse Gravel Bed Rivers, George

A. Griffiths, HY July 81, p899-918.

Resistance Equation for Large-Scale Roughness, James C. Bathurst, Ruh-Ming Li and Daryl B. Simons, HY

Dec. 81, p1593-1613.

Roughness Coefficients for Routing Surface Runoff, Edwin T. Engman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p560-565.

Route preferences

Perceived Factors Affecting Driver Route Decisions, Manouchehr Vaziri and Tenny M. Lam, TE March 83, p297-311.

Nondimensional Comparisons of Reach Routing Methods, Larry M. Younkin, Fred D. Theurer and William H. Merkel, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p594.

Rubble-mound breakwaters

Breakage of Concrete Armor Units, Dennis G. Markle and D. D. Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2216-2238.

Perakwater Design and the Integration of Practical Construction Techniques, Jan H. van Oorschot, (Coastal Structures '83, J. R. Weggel, ed., 1983),

p108-121.

Breakwater Stability-Breaking Wave Data, Robert D. Carver and D. Donald Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2107-2128

Breakwater Superstructures, Ole Juul Jensen, (Coastal Structures '83, J. R. Weggel, ed., 1983), p272-285. Construction of Mound Breakwaters, Sverre Kjelstrup and Per Bruun, Coastal Structures '83, J. R. Weggel,

ed., 1983), p140-156.

Design of Mound Breakwaters, Per Bruun and Sverre Kjelstrup, (Coastal Structures '83, J. R. Weggel, ed., 1983), p122-139.

Dolos Stability Effect of Block Density and Waist Thickness, D. J. P. Scholtz, J. A. Zwamborn and M.

Inickness, D. J. P. Scholtz, J. A. Zwamborn and M. van Niekerik, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2026-2046. Improvements in Modelling Rubble-Mound Breakwaters, G. W. Timco and E. P. D. Mansard, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p2047-2061.

Irregular Wave Tests for Composite Breakwater Foundations, Katsutoshi Tanimoto, Tadahiko Yagyu and Yoshimi Goda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2144-2163.

Low-Crest Breakwaters, Studies in Random Waves, N. W. H. Allsop, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p94-107.

The Monitoring of Rubble Mound Breakwater Stability Using a Photographic Survey Method, J. W. J. Kluger, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2164-2170.

A Numerical Model of Wave/Breakwater Interactions, D. Ian Austin and Roger S. Schlueter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2079-2096.

Tests, G. W. Timco and E. P. D. Mansard, (Coastal Structures '33, J. R. Weggel, ed., 1983), p83-93. Some Thoughts on the Future Design of Breakwaters, W. A. Price, (Coastal Structures '83, J. R. Weggel, ed., 1983).

1983), p1-2. Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and

through Irregular Wave Test, Masato Yamamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143. Stability of Armour Units in Oscillatory Flow, Hans F. Burcharth and A. C. Thompson, (Coastal Structures '83, J. R. Weggel, ed., 1983), p71-82. West Breakwater-Sines Dynamic-geotechnical Stability of breakwater-Sines Dynamic-geotechnical Stability of breakwaters, Frans B. J. Barends, Hans van der Kogel, Frans J. Uijttewaal and J. Hagennar, (Coastal Structures '83, J. R. Weggel, ed., 1983), p31-44.

West Breakwater-Sines Overview of Rehabilitation and Synthesis of Project, J. F. Toppler, A. Steenmeyer, M. A. Goncalves da Silva, H. Ligteringen and F. Silveira Ramos, (Coastal Structures '82, J. R. Weggel, ed., 1983), p3-16.

West Breakwater-Sines Study of Armour Stability, A. Mol, H. Ligteringen, R. L. Groeneveld and C. R. A. M. Pita, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p57-70.

Zeebrugge's Main Breakwaters, L. V. Van Damme, (Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1745-1764.

Antecedent Moisture Condition Probabilities, Donald D. Gray, Peter G. Katz, Sharon M. deMonsabert and Neroli P. Cogo, IR June 82, p107-114.
Calibration of NPS Model Loading Factors, John P.

Hartigan, Thomas F. Quasebarth and Elizabeth Southerland, EE Dec. 83, p1259-1272. Central and Southern Florida Project, A. G. Holler and

O. C. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p152-165. The Curve Number Runoff Model as an Infiltration

Model for Hydrograph Simulation, Michael E. Meadows and Allen L. Chestnut, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p298-307.

Curve Numbers: A Personal Interpretation, Allen T. Hjelmfelt, Jr., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p208-215.

Design Rainfall Patterns for the State of Wyoming,

Patrick T. Tyrrell, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p494-502. Estimating Unit Hydrograph Peak Rate Factors, Richard H. McCuen and Timothy R. Bondelid, IR

June 83, p238-250.

June 83, p.236-230. Estimation of Soil Erosion in India, Dhruva V. V. Narayana and Ram Babu, IR Dec. 83, p419-434. Experience with Curve Numbers in EPIC, J. R. Williams and K. G. Renard, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p.282-289. Furrow Irrigation Runoff: A Linear Systems Approach, Character Single Science (Street Street)

Subramaniaiyer Sritharan, Wayne Clyma and Everett V. Richardson, IR March 83, p29-42.

Generalized SCS Runoff and Infiltration Equations,

Cheng-lung Chen, (Advances in Irrigation and Drain-

age, John Borrelli, ed., 1983), p216-225. The Impact of Irrigation on Pollutant Loads, J. R. DelVecchio, W. G. Knisel and V. A. Ferreira, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p113-123.

Pesticide Transport and Bioconcentration Model, Jerald L. Schnoor and Drew C. McAvoy, EE Dec. 81,

p1229-1246.

Pollutant Loading Model for Highway Runoff, Tai Wik Chui, Brian W. Mar and Richard R. Horner, EE Dec. 82, p1193-1210.

Post-Audit of Lake Model Used for NPS Management, John P. Hartigan, John A. Friedman and Elizabeth Southerland, EE Dec. 83, p1354-1370.

Reduction of Sediment Loss by No-Till Cultivation, J. D. Graf, J. Borrelli, K. J. Fornstrom and G. D. Jackson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p368-376.

Snownelt Runoff Modeling Using Landsat Imagery, E. B. Jones, D. M. Frick, B. A. Shafer and A. Rango, (Advances in Irrigation and Drainage, John Borrelli,

ed., 1983), p484-493. Solution of Recession and Runoff Integrals, Moham-

mad Akram Gill, IR Sept. 83, p333-337.
SWMM Model and Level of Discretization, Nabil A.
Zaghloul, HY Nov. 81, p1535-1545.
System Design of the San Francisco Ocean Outfall,
Henry H. C. Lin, George J. Murphy, Yair Eisenberg and Loring E. Hanson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1935-1949. Urban Runoff Quality: Information Needs, Michael B.

Sonnen, TC Aug. 80, p29-40.
Water Yield Estimation in Western United States, Mark E. Hawley and Richard H. McCuen, IR March 82, p25-34.

Yakima-Tieton Irrigation District Canal Repairs, Richard V. Haapala, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p141-146.

Runoff coefficient

A Pragmatic Evaluation of the SCS Hydrologic Methods, Richard H. McCuen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p200-207.

Relation Between Curve Number and Runoff Coefficient, Richard H. McCuen and Timothy R.

Bondelid, IR Dec. 81, p395-400.

Runoff forecasting Comparison of Four Rainfall-Runoff Methods, Bruce J. McGurk and Richard H. Hawkins, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

Modeling Stormwater Storage/Treatment Transients: Theory, Miguel A. Medina, Jr., Wayne C. Huber and James P. Heaney, EE Aug. 81, p781-797. Regional Monthly Rainfall-Runoff Model, M. Mim-

ikou and A. Ramachandra Rao, WR Jan. 83, p75-93. Transfer Function Models in Urban Runoff Forecasting, Gilles G. Patry and Miguel A. Marino, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p578-583.

Rural areas
In Third World Villages, a Simple Handpump Saves
Lives, Allen Morrison, CE Oct. 83, p68-72.
Management of On-Site Disposal Systems: Case Study,
Jerry Y. C. Huang, EE Aug. 83, p845-858.
Optimal Design of Branched Water Supply Networks,
Anand V. Chiplunkar and P. Khanna, EE June 83,

Structuring a Small Wasteflow Management Agency, Louise B. Franklin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1982-1990.

Rural highways

Optimal Strategies for Bridge Replacement, Alberto Garcia-Diaz and Judith S. Lieberman, TE March 83, p196-208.

Safety
Di Minimis Violation, CE Sept. 83, p26.
Downgrading Construction Incidents, V. K. Handa and Doug Rivers, CO June 83, p190-205.

Labor-Contractor Dialogue Transforms Worksite At-mosphere, Marie A. Casey, CE Nov. 83, p64-68. OSHA, Excavation Support for Solid Rock, CE Feb. 83,

p16.
OSHA, Multi-Employer Site, CE Apr. 83, p22.
OSHA Regulations Effect on Construction, Enno
Koehn and Kurt Musser, CO June 83, p233-244. OSHA, Repeated Violation for Similar Violation, CE

Feb. 83, p16.
Owner's Guidelines for Selecting Safe Contractors, Nancy M. Samelson and Raymond E. Levitt, CO Dec. 82, p617-623.

Policies for Pipeline Safety Near Urban Areas, R. J. Allman and J. D. Dilay, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p212-237. Reducing Construction Failures and Their Legal Costs, CE July 83, p14.

Reliability Analysis of Lifeline Systems, Hideji Kawa-kami, TC Aug. 83, p117-131.

Safety analysis
Safety Performance Goals, Nicholas D. Nedas, (The
Role of the Civil Engineer in Highway Safety, Martin
E. Lipinski, ed., 1983), p33-44.

The Engineer as an Expert Witness, Olin K. Dart, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p103-105.
Factors of Safety for the Design of Breakwaters, J. D.

Mettam and J. G. Berry, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2097-2106.

Engineering 82, Billy L. Euge, ed., 1903), p2037-2100.
Roadway Design and the Impact on Safety, David K.
Phillips, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p23-32.
System Reliability Bounding by Conditioning, Ove Ditlevsen, EM Oct. 82, p708-718.

Safety program

Evolution of Highway Safety Legislation, James E. Wilson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p3-13.

Cold Regions Safety, Wayne Hibblen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p95-117.

Construction Safety Yields Cost Avoidance for DC Metro, CE June 83, p68.

Financing and Priority Setting of Highway Safety Projects, Kumares C. Sinha, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p148-161.

Highway Improvement Programs and Liability, John L. Grubba, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p170-178.

Safety, Martin E. Lipinski, ed., 1983), p170-178.
The Role of the FHWA in Highway Safety, E. Dean Carlson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p14-22.
Safety Performance Goals, Nicholas D. Nedas, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p33-44.

Safety research

Developing a Risk Management Program for Ports, Suzanne Rogalin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p319-335.

In-Service Evaluation of Roadside Hardware, Donald L. Woods, (The Role of the Civil Engineer in Highway Safety, MMartin E. Lipinski, ed., 1983), p82-91. The Role of the FHWA in Highway Safety, E. Dean Carlson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p14-22.

Salaries

ASCE Engineering Salary Index as of December 31, 1982 (Prepared Semi-Annually), CE Apr. 83, p36. ASCE Salary Survey 1981, Committee on Employment Conditions of the Professional Practice Division of the American Society of Civil Engineers, 1982, 76pp. ASCE Salary Survey Report Highlights, CE April 83, p72-74.

Employment Conditions: United States versus Over-

seas, Joseph E. Hardee, EI Apr. 83, p103-112. Engineers' Pay Rises 5.9%, CE June 83, p10. Large Firms Pay More, CE April 83, p18.

Merit Pay in an Engineering Organization, Paul J. Yaroschak, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p16-22. Personnel: Recruiting, Motivating, Rewarding, 1983,

Salary Data Needed, CE Nov. 83, p78.

Salary Index, CE Dec. 83, p65.

Sales management
Market Research and the Engineering Firm, Howard Hoyt Hilton, CE Aug. 83, p55-57.

Saline groundwater

Assessing Waterlogging Controls I: Hydrologic Model,

H. J. Morel-Seyfoux, A. R. Simpson and R. A.

Young, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p124-133.

National Water-Use Information Program, William B. Mann, IV, John E. Moore and Edith B. Chase, WR Apr. 83, p186-194.

Saline Water Use Prospects: Colorado River, Michael B. Bessler, IR June 83, p221-231.

Saline water intrusion

An Alternative to the Peripheral Canal, Gerald T. Orlop, WR March 82, pl23-141. Chemical Profiles in Soft Clays and the Role of Long-Term Diffusion, Robert M. Quigley and

Long-1erm Diffusion, Robert M. Quigley and Valerie E. Crooks, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p5-18. Effect of Gradients on Acoustic Velocity Meter, Henry T. Falvey, HY Nov. 83, p1441-1453. The Effects of Deepdraft Ship Channels on Salinity Intrusion in Shallow Bays, George H. Ward, Jr., (Proceedings of Ports 83, Kong Wong, ed., 1983), 533-543. p532-542.

Interfacial and Bed Shear Stresses in Saline Wedges, Vassilios Dermissis and Emmanuel Partheniades, (*Proceedings of Coastal Engineering 82*, Billy L. Edge, ed., 1983), p2474-2493.

Salinity Intrusion into Multi-Port Sea Outfalls, John A Charlton, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2376-2385.

Saline water-freshwater interfaces
The Effects of Deepdraft Ship Channels on Salinity
Intrusion in Shallow Bays, George H. Ward, Jr.,
(Proceedings of Ports 83, Kong Wong, ed., 1983), p532-542.

Internal Structure and Turbulent Entrainment Characteristics of the Saline Wedge, Frank E. Sargent and Gerhard H. Jirka, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p7.
Two-Dimensional Salt Intrusion Branching Model,
Dong-Ping Wang, WW Feb. 83, p103-112.

Chemical Reactions within the Root Zone, J. D. Oster and K. K. Tanji, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p399-408. Dilution of a Dense Vertical Jet, Wesley P. James,

Ignacio Vergara and Ken Kim, EE Dec. 83, p1273-

Entrainment in a Thermohaline Double-Diffusive System, J. Atkinson and D. R. F. Harleman, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p8-14.
Groundwater Quality in Six Western States, Michael B. Sonnen, Jim L. Thomas and J. C. Guitjens, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p275-281.

Groundwater Studies in New Mexico and Arizona, George V. Sabol, Herman Bouwer and Peter J. Wierenga, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p192-199.

Leaching Requirements for Managing Salinity, Glenn J. Hoffman, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p409-416. Long-Term Salinity Calculations in Delaware Estuary, M. Llewellyn Thatcher and Donald R. F. Harleman, EE Feb. 81, p11-27. Multipurpose Gate Operation, Kazumasa Mizumura,

(Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p2534-2550.

Rate Process Parameters for Erosion and Shear, William E. Kelly, Richard M. Heavers and Gregory Gardner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p102-106. Saline Water Use Prospects: Colorado River, Michael

B. Bessler, IR June 83, p221-231.

Salinity Control by Canal Lining: The McElmo Creek Unit, Colorado, W. Martin Roche and John W. Davison, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p514-521.

Salinity Reduction Impact on Irrigated Agriculture, Jim Riley and Michael J. Mickelson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p503-513.

Salt Problems from Increased Irrigation Efficiency, J. D. Rhoades, (Advances in Irrigation and Drainage,

John Borrelli, ed., 1983), p427-434.
Treatment of Saline Domestic Wastewater Using RBCs, Nancy E. Kinner and Paul L. Bishop, EE Aug. 82,

Two-dimensional Transient Behavior of Estuarine Salinity, Carl F. Cerco and Albert Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p375-379.

Salt water intrusion

Baton Rouge and New Orleans Deep Water Draft to Gulf of Mexico, A. A. Hannoura and E. P. Russo, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1032-1040.

On Environmental Approach to Protecting Estuaries from Salt Intrusion, Michael A. Rozengurt, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2279-2293.

Shoreline Changes Due to Various Sea-Level Rise

Scenarios, Timothy W. Kana, Jacqueline Michel, Miles O. Hayes and John R. Jensen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2768-2776.

Two-Dimensional Salt Intrusion Branching Model, Dong-Ping Wang, WW Feb. 83, p103-112.

Saltation in Water Dynamics, Peter J. Murphy and Hamid Hooshiari, HY Nov. 82, p1251-1267.

Deformation Effects of Random Salt Creep Variation, Linda J. Branstetter, Raymond D. Krieg and Charles M. Stone, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p1063-1066.

Sample disturbance

Effect of Stress Release on Shear Modulus of Clays, George A. Athanasopoulos and F. E. Richart, Jr., GT Oct. 83, p1233-1245.

Sampling
Accuracy of Surface Samples from Gravel Bed Material, Richard D. Hey and Colin R. Thorne, HY June 83, p842-851.

Engineer's Notebook: Determining Sample Size of Pavement Deflections by Nomograph, Sudipta Ban-dyopadhyay, CE Apr. 83, p57-59. Sampling Strategies for Mass-Discharge Estimation,

Byron Bodo and T. E. Unny, EE Aug. 83, p812-829. Undisturbed Sampling of Saturated Sands by Freezing, Sukhmander Singh, H. Bolton Seed and Clarence K. Chan, GT Feb. 82, p247-264.

Sanctuary
Education Programming in the South Slough Estuarine
Sanctuary, Delane A. Munson, (Coastal Zone '83,
Orville T. Magoon, et al, eds., 1983), p1840-1845.

Analysis of Saturated Sand Deposit Liquefaction Potential in the Mid-West Coast of Taiwan, Hoshong Hou, F. B. Lee and L. G. Jiann, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2459-2477.

Axial Capacity of Steel Pipe Piles in Sand, Norman D. Dennis and Roy E. Olson, (Geotenhical Practice in Ofishore Engineering, Stephen Wright, ed., New York: ASCF 1983), 1389-407.

York: ASCE, 1983), p389-402.

Blown Sand on Beaches, Susumu Kubota, Kiyoshi Horikawa and Shintaro Hotta, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983),

p1181-1198.

Design Techniques to Mitigate Environmental Impact of Sand and Gravel Excavations in Alluvial Channels of the Western United States, Jeffrey M. Cooper, John R. Stratford, G. Thomas Davis and Robert H. Born, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p454.

Elastic and Plastic Strain Properties of Sand, Chin-Su Ting, GT May 82, p787-793. Endochronic Modeling for Shear Hysteresis of Sand, Han-Chin Wu and Jiun-Chyuan Sheu, GT Dec. 83, p1539-1550.

Erosion by Plane Wall Jets with Minimum Tailwater, Nallamuthu Rajaratnam and Roger K. Macdougall, HY July 83, p1061-1064. Evaluation of Liquefaction Potential Using Field

Performance Data, H. Bolton Seed, I. M. Idriss and Ignacio Arango, GT March 83, p458-482.
Flow Resistance in Large Test Channel, Joe C. Willis, HY Dec. 83, p1755-1770.

Group Effect on Piles in a Liquefying Sand Deposit, Pedro A. De Alba, (Geotechnical Practice in Offshore redro A. De Alba, (twotecnnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p300-314. Holding Capacity of Vertical Anchor Slabs in Granular Soil, Braja M. Das, (Coastal Structures '83, J. R. Weggel, ed., 1983), p379-392. Mechanics of Eiber Reinforcement in Sand Donald H.

Mechanics of Fiber Reinforcement in Sand, Donald H. Gray and Harukazu Ohashi, GT March 83, p335-353. Pile Settlement in Liquefying Sand Deposit, Pedro A. De Alba, GT Sept. 83, p1165-1180.

Scale Effects of Ultimate Pile Capacity, George G.

Meyerhof, GG June 83, p797-806.

Seismic Safety of Soil Deposits Against Liquefaction, J. E. A. Pires, Y. K. Wen and A. H. S. Ang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p871-874.

Slope Stability in Coarse Sediments, Nicholas Sitar, (Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p82-98.
Stress Analysis of Dummy Rod Method for Sand Specimens, Han-Chin Wu and G. S. Chang, GT Sept. 82, p1192-1197.

Torsional Behavior of Model Piles in Sand, R. N. Dutt Iorsional Benavior of Model Pules in Sand, R. N. Dutt and M. W. O'Neill, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p315-334.
Uplift Resistance of Model Single Piles, K. P. R. Chaudhuri and M. V. Symons, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p335-355.

Lagoon Effluent Polishing with Intermittent Sand Filters, Jerry S. Russell, E. Joe Middlebrooks, Ronald F. Lewis and Edwin F. Barth, EE Dec. 83, p1333-1353.

Sand filtration

Rapid Sand Filtration of Giardia Cysts, Mohammed Al-Ani and David W. Hendricks, (National Confer-ence on Environmental Engineering, Allen Medine, et

al, eds., 1983), p411-418.

Removal of Microorganisms by Slow Rate Sand Filtration, Linda K. McConnell, Ronald C. Sims, Darwin L. Sorensen, William B. Barnett and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p419-425.

Slow Rate Sand Filtration for Providing Drinking

Water for Small Communities, Lloyd A. Slezak, Ronald C. Sims and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p136-143.

Sand waves

Modified Kinematic Model: Application to Bed Forms, Charles C. S. Song, HY Aug. 83, p1133-1151. Sediment Suspension with Rippled Bed, Syunsuke Ikeda and Takashi Asaeda, HY March 83, p409-423.

K_o - OCR Relationships in Soil, Paul W. Mayne and Fred H. Kulhawy, GT June 82, p851-872. Liquefaction Sites, Imperial Valley, California, T. Leslie Youd and Michael J. Bennett, GT March 83,

Mechanisms of Strength for Frozen Sand, John M. Ting, R. Torrence Martin and Charles C. Ladd, GT Oct. 83, p1286-1302.

Oct. 83, p1286-1302. Model Tests of Piles in Calcarecus Sands, J. F. Nauroy and P. Le Tirant, Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p356-369. Soil Mechanics Related to Permeability Anisotropy of Coastal Sand Deposits, Rufus T. Getzen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), 2341-3449.

p2413-2430.

Swell of Wyoming Montmorillonite and Sand Mixtures, Mehmit A. Sherif, Isao Ishibashi and B. W. Medhin, GT Jan. 82, p33-45.

Tertiary Creep Model for Frozen Sands, John M. Ting, GT July 83, p932-945. Three-Dimensional Behavior of Sand with Anistropic Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct. 83, p1313-1328

Uncertainty in Bearing Capacity of Sands, Thomas S. Ingra and Gregory B. Baecher, GT July 83, p899-914. Undisturbed Sampling of Saturated Sands by Freezing, Sukhmander Singh, H. Bolton Seed and Clarence K.

Chan, GT Feb. 82, p247-264.

Rock Sockets in Soft Rock, George H. Glos, III and Oliver H. Briggs, Jr., GT Apr. 83, p525-535.

Sandwich structures

Sanwich-Panel Assemblies: Analytical Model, S. Rizzo

and Paul Fazio, ST Nov. 83, p2715-2732. Stability Investigations of Variable Core Sandwich, Piotr A. Wrzecioniarz, EM Dec. 83, p1460-1471.

Sanitary engineering Rational Design of Evapotranspiration Bed, Joseph A.

Salvato, EE June 83, p646-660. Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-

Sanitary landfills
Chemical-Physical Leachate Treatment, John D.
Keenan, R. Lee Steiner and A. Alexander Fungaroli, EE Dec. 83, p1371-1384.

Design of Natural Attenuation Landfills, Amalendu Bagchi, EE Aug. 83, p800-811. Land Suitability Analysis: Landfill Siting, William N. Lane and Robert R. McDonald, UP May 83, p50-61. Leachate Collection Design for Containment Landfills, Edward A. McBean, Ronald Poland, Frank A. Rovers and Anthony J. Crutcher, EE Feb. 82, p204-209.

A Model for the Bacterial Contamination of Groundwater, M. Yavuz Corapcioglu and A. Haridas, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p60-65.

Modeling Water Movement through Sanitary Landfills, Alexander C. Demetracopoulos and George P. Korfiatis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p54-59. Prediction Models for Sanitary Landfills, Haydar Erdogan, (National Conference on Environmental

Engineering, Allen Medine, et al, eds., 1983), p540-547.

Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-

Sanitary Sewers
Houston Plans Massive Sewer Line, CE Oct. 83, p22. Prediction of Sulfide Buildup in Sanitary Sewers, Karl E. Kienow, Richard D. Pomeroy and Kenneth K. Kienow, EE Oct. 82, p941-956.

Satellite comm unications

Project Systems via Satellite Communications, Daniel J. McDermott, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p267-277.

Satellite mapping Navstar Global Positioning System, Henry R. Heuerman and Walter J. Senus, SU Aug. 83, p73-80. New Positioning Power for the Surveyor, Paul D. Rodgers, SU Aug. 83, p90-98.

Satistical analysis

Statistical Study on Steel Plate Members, Sadao Komatsu and Satoshi Nara, ST Apr. 83, p977-992.

Sultrated Solis

Undisturbed Sampling of Saturated Sands by Freezing,
Sukhmander Singh, H. Bolton Seed and Clarence K.
Chan, GT Feb. 82, p247-264.

Construction Industry in Saudi Arabia, Mohammed Al-Jarallah, CO Dec. 83, p355-368.

Scale effect

Aeration Scale Effects, Eric S. Clyde and J. Paul Tullis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p413-418.

Scattering
Natural Wave Trains and Scattering Transform, Rodney J. Sobey and Errol J. Coleman, WW Aug. 82, p272-290.

Piles as Barriers for Elastic Waves, Javier Aviles and Francisco J. Sanchez-Sesma, GT Sept. 83, p1133-

Scattering of Elastic Waves by Sub-Surface Topographies, R. D. Steinberg, R. J. Brind and J. D. Achenbach, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p411-414.

Scheduling

Are "No Damages for Delay" Clauses Really Effective,

Michael C. Loulakis, CE July 83, p31.
Cost and Schedule Controls During Construction, Jeffrey L. Bessa, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p187-201.

Cost and Schedule Integration in Construction, Chandra S. Murthy, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p119-129.

Cost Control: Integrated Cost/Schedule Performance, Wayne M. Stevens, (Improving Productivity, J. R.

King Jr., ed., 1983), p16-27.

A Farmer Operated Irrigation Scheduling Procedure, Ron D. Bliesner and Robert W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p259-266.

Fencing a Bar Chart, John W. Melin and Barry Whiteaker, CO Sept. 81, p497-507.

Whiteaker, CO Sept. 61, 9497-307.
Flight Frequency Determination, Dusan B. Teodorovic,
TE Sept. 83, p/47-757.
Integration of Client/Contractor Project Control, James

F. Warren and Richard A. Mazzini, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p224-235. Irrigation Water Delivery for Equity between Users,

A. Bishop and A. K. Long, IR Dec. 83, p349-356.
Is Total CPM Really the Answer for Super Projects? Ronald M. Parsons, CE Nov. 83, p70-71.

Optimization of Zonal Transit Service, Shou-min Tsao and Paul Schonfeld, TE March 83, p257-272.

Reconstruction of a Grain Loading Jetty with Minimum Downtime, Kurt Helin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p704-716.

Recovery of Home Office Overhead in a Construction Delay Claim-- the Rejection of the Eichleay Formula,

CE Sept. 83, p36.
Rehabilitation of Cyclopean Concrete Wharf, Rodney P. Lundin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p816-827.

Risk Analysis of Resource Levelled Networks, Thomas Byers and Paul Teicholz, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p178-186. Salt Problems from Increased Irrigation Efficiency, J.

D. Rhoades, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p427-434.

Scheduling: Effective Methods and Techniques, Elise

Hosten McGough, CO March 82, p75-84.
Stochastic Network Model for Planning Scheduling,
John C. Woolery and Keith C. Crandall, CO Sept. 83, p342-354.

System for Integrated Project Control, James M. Neil, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p138-146.

Time Impact Analysis—Forensic Scheduling, David M. Lee, (Liability in Construction Management, David M. Lee, ed., 1983), p43-55.

Scholarships

CE Students Receive ASCE Scholarships, CE Sept. 83,

Schools

Construction Education: Past, Present, and Future, Clarkson H. Oglesby, CO Dec. 82, p605-616. Engineering School Plans High-Tech Center, CE July

83, p22. Engineering Shortage (ltr.), David D. Moore, CE Jan.

Report Shows Engineering Enrollment Rise, CE Dec. 83, p10.

Clear-Water Scour at Cylindrical Piers, Arved J. Raudkivi and Robert Ettema, HY March 83, p338-

Erosion by Submerged Circular Jets, Nallamuthu Rajaratnam, HY Feb. 82, p262-267.

Estimation of Plunge Pool Scour Hole Depth, Robert J. Wart and Hans W. De Meel, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p596. Headwall Influence on Scour at Culvert Outlets, Cesar Mendoza, Steven R. Abt and James F. Ruff, HY July 83, p1056-1060.

Mathematical Modeling of Scour in Streams, David R. Dawdy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p64-69.

New Design Equations for Scour Around Bridge Piers, Christopher James Baker, HY April 81, p507-511. Numerical Modeling of Scour Potential at the Breach of a Causeway, Yutaka Ochi, Choule J. Sonu and Robert E. Potter, (Coastal Structures '83, J. R. Weggel, ed., 1983), p660-672. Scour Behind Circular Cylinders in Deep Water, Jorg

Imberger, Des Alach and John Schepis, (*Proceedings of Coastal Engineering 82, Vol. II*, Billy L. Edge, ed., 1983), p1522-1554.

Scouring Induced Vibrations on Sub-Sea Pipelines, Amit B. Ghosh and Louis M. Laushey, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p108-128

Time Scale for Scour Downstream of Hydraulic Jump, Javad Farhoudi and Kenneth V. H. Smith, HY Oct. 82, p1147-1162.

Scrubbers

Air Pollution Cleaning Wastes: Dry vs. Wet, Richard W. Goodwin, EY Sept. 83, p131-141.

Breakout Theory for Offshore Structures Seated on Sea-Bed, Mostafa A. Foda, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New

York: ASCE, 1983), p288-299.

Modelling of Sea-Bed Evolution under Waves Action,
Y. Coeffe and P. H. Pechon, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1149-1160.

Response of Seafloor to Ocean Waves, W. D. Liam Finn, R. Siddharthan and G. R. Martin, GT Apr. 83, p556-572

Transient Stresses Induced in Sandbed by Wave Loading, Kenneth R. Demars, GT Apr. 83, p591-602.

Wave Reflection from Undulating Seabed Topography, A. D. Heathershaw, (Proceedings of Coastal Engi-neering 82, Vol. I, Billy L. Edge, ed., 1983), p543-554.

Sea level

Economic Impacts of Sea Level Rise, Michael J. Gibbs, Murray Kenney and Charles E. Martin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2754-2767.

Geomorphic Effects of Projected Sea Level Rise: A Case Study of Galveston Bay, Texas, Stephen P. Leatherman, (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p2890-2901.
Global Sea Level: Estimating and Explaining Apparent Changes, T. P. Barnett, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p2777. Ice-Sheet Melting and Sea Level, R. H. Thomas, D. E. Thompson, R. A. Bindschadler and D. R. MacAyeal, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2846-2857

Projecting Sea Level Rise to the Year 2100, John S. Hoffman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2784-2795.

Responding to an SOS—Save Our Shores, E. R. Heiberg, III, L. A. Duscha and J. H. Lockhart, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2244-2163.

Sea Level Rise and Shoreline Recession, Cyril Galvin, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p2684-2705

Shoreline Changes Due to Various Sea-Level Rise Scenarios, Timothy W. Kana, Jacqueline Michel, Miles O. Hayes and John R. Jensen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2768-2776.

Variation of Foreshore Due to Detached Breakwaters, Osamu Toyoshima, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1873-1892.

Sea water

Characterization of Offshore and Coastal Ice Conditions, Kennon D. Vaudrey, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p3-16,

Secondary flow Computation of 3-D Flow and Shear in Open Channels, Chao-Line Chiu and Gwo-Fong Lin, HY Nov. 83, p1424-1440.

On Secondary Motions in Open Channel Flow, A. Jacob Odgaard, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1220-1223. River-Bend Bank Protection by Submerged Vanes, A. Jacob Odgaard and John F. Kennedy, HY Aug. 83,

p1161-1173.

Sediment

Erosion Control Facilities—Mitigating Their Effect on Coastal Sediment Supplies, David M. Potter, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2317-2327.

Reconnaissance Dredged Material Testing in Oregon, Pamela Moore, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p850-863.

Variable Sediment Flux and Beach Management,

Ventural County, California, Antony R. Orme and Amalie Jo Brown, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2328-2342.

sediment concentration

Mt. St. Helens Impact on Cowlitz River Sedimentation, Bobby J. Brown and W. Anthony Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983). p147-152

Numerical Modeling of Sedimentation Tanks, Emad Imam, John A. McCorquodale and J. K. Bewtra, HY

Dec. 83, p1740-1754.

Particle Concentration Predictions in Settling Basins, David R. Schamber and Bruce E. Larock, EE June 83, p753-764

p.735-764.
 Reduction of Sediment Loss by No-Till Cultivation, J. D. Graf, J. Borrelli, K. J. Fornstrom and G. D. Jackson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p368-376.
 Sediment Analyses for Urbanizing Watersheds, Gary R. Dyhouse, HY March 82, p399-418.
 Sediment Transport and Unit Stream Power Function,

Chih Ted. Yang and Albert Molinas, HY June 82, p774-793.

Sediment deposits

Permeability-Anisotropy due to Particle Shape, K. -J. Witt and J. Brauns, GT Sept. 83, p1181-1187.

Sediment discharge River-Bed Degradation Due to Sediment Diminution, Inbo Park and Subhash C. Jain, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p141-146.

Sediment load

Sediment loau
Changes in the Coastal Morphology of Vrachati,
Greece, C. I. Moutzouris and A. J. Rogan, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L.
Edge, ed., 1983), p1028-1045.
Estimation of Soil Erosion in India, Dhruva V. V.
Necession and Pan Baby IR Dec. 83, p419-444.

Narayana and Ram Babu, IR Dec. 83, p419-434. Incipient Motion of Particles under Oscillatory Flow, L. Lenhoff, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1555-1568. Remodified Einstein Procedure for Sediment Load, Hsieh W. Shen and Cary S. Hung, HY Apr. 83,

p565-578.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N.

Prasad, HY Dec. 82, p1486-1503.

Sediment and Nutrient Loads Associated with a Tropical Storm, Loxahatchee River Estuary, Southeastern Florida, Benjamin F. McPherson and Wayne Sonntag, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2250.

Sediment transport
Adsorption of Hydrophobic Pollutants in Estuaries, John P. Connolly, Neal E. Armstrong and Richard W. Miksad, EE Feb. 83, p17-35.

Antidune Movement, Subhash C. Mehrotra, HY Feb.

83, p302-304.

Application of Cafe to the Irish Sea, Fonda L. Thompson and Yasuo Onishi, (Frontiers in Hydraulic nompson and rasuo Onishi, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p369-374.

Assessment of Beach Fill Performance by Excursion Analysis, Ivan B. Chou, Gregory M. Powell and Travor C. Winton, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2361-2377.

Bed Load Transport of Fine Sand by Laminar and Trabulat Elsevi

Turbulent Flow, Anthony J. Grass and Ragaei N. M. Ayoub, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1589-1599.
Blench Equilibrium Parameters: Supplementary Data, Walter H. Graf, Huu Hai Cao and James C. Bathurst,

HY Oct. 83, p1369-1374.

Blown Sand on Beaches, Susumu Kubota, Kiyoshi Horikawa and Shintaro Hotta, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1181-1198.

Characterization Tests for Cohesive Sediments, Ashish

J. Mehta, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), PJ9-84. Circulation Induced by Tidal Jets, Prakash Joshi and E. Bruce Taylor, WW Nov. 83, p445-464. Cohesive Material Erosion by Unindirectional Current, J. William Kamphuis and Kevin R. Hall, HY Jan. 83,

Cohesive Sediment Properties and Transport Processes,

Cohesive Sediment Properties and Transport Processes, Ray B. Krone, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p66-78.

Computational Algorithm for Longshore Energy Flux Incorporating Friction, T. L. Walton, Jr. and J. R. Weggel, (Proceedings of Coastal Engineering 82, Vol.II, Billy L. Edge, ed., 1983), p1046-1061.

Computed Sediment Transport Rates Using Time-Dependent Bed Shear, Charles C. Baggs, (Frontiers in United Inc.) Engineering Hung Tao Shen, ed., 1983).

Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p604.

Consideration of Cohesive Sediment Transport in Estuarial Water Quality Management, Earl J. Hayter, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p606.
Continental Shelf Sediment Transport: A Coupled Model for Flow and Sediment Dynamics, William D. Grant and Scott M. Glenn, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), pl24.
Design and Calibration of False Bay Sediment Model, J. S. Schoonees and J. P. Moller, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed.,

1983), p1161-1180.

The Design of Weir Sand By-Passing Systems, J. Richard Weggel, (Castal Structures '83, J. R. Weggel, ed., 1983), p860-875.
Development and Prediction of Bed Armoring, Hseih

W. Shen and Jau-Yau Lu, HY Apr. 83, p611-629. The Effect of Bed Slope on Wave Characteristics, R. C.

Nelson, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p555-572.

Entrainment, Deposition, and Transport of Sediments in Lakes, Wilbert Lick and See Whan Kang, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p119.

ed., 1983), p119.
Field Experiments on Longshore Sand Transport in the Surf Zone, Nicholas C. Kraus, Masahiko Isobe, Hajime Igarashi, Tamio O. Sasaki and Kiyoshi Horikawa, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p969-988.
Field Investigation of Beach Profile Changes and the Analysis Using Empirical Eigenfunctions, Hiroshi Hashimoto and Takaaki Uda, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983).

Engineering 82, Vol. II, Billy L. Edge, ed., 1983),

p1369-1384.

Field Investigation of Longshore Transport Distri-bution, E. P. Berek and R. G. Dean, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1620-1639.

Field Study on Onshore-Offshore Sediment Transport, Masataro Hattori, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p923-940. Incipient Motion of Particles under Oscillatory Flow, L. Lenhoff, (Proceedings of Coastal Engineering 82, Vol.

II, Billy L. Edge, ed., 1983), p1555-1568.
Interaction between Bed Forms and the Flows that Maintain Them, James D. Smith, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p126.

Longshore Transport Determined by an Efficient Trap, R. G. Dean, E. P. Berek, C. G. Gable and R. J. Seymour, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p954-968.
Long-Term Observations of Sediment Transport on the

Continental Shelf: East and West Coast of the United States, David A. Cacchione, Bradford Butman and David E. Drake, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., [193], p123. Change, Robert M. Clancy, Fred E. Camfield and Christine Schneider, (Coastal Structures '83, J. R Weggel, ed.,

Schneider, (Coastal Structures 6), J. R. Wegger, Sch. 1983), p. 717-726.

Measured and Computed Coastal Ocean Bedload Transport, Alan William Niedoroda, Chen-Mean Ma, Peter A. Mangarella, Ralph H. Cross, Scott R. Huntsman and Donald D. Treadwell, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1353-1368.

Measurement of Hydrographic Parameters in Large Sand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and

Waterways of the Waterway, Port, Coastal and Ocean Division, 1983, 81pp.

Measurements of Turbulence over Vortex-Ripple, Masaki Sawamoto, Toshihiko Yamashita and Tadashi Kitamura, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p282-296. Measuring and Modeling Organism Effects on Sediment Transport, Arthur R. M. Nowell and Peter A.

Jumars, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p121.

A Model of Longshore Sediment Transport Processes in the Surf Zone, Ole Secher Madsen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p125.

Modeling Coastal Currents and Sediment Transport, Y. Peter Sheng and H. Lee Butler, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1127-1148.

Modeling On-Offshore Sediment Transport in the Surfzone, James A. Bailard, (Proceedings of Coastal Engineering 83, Vol. II, Billy L. Edge, ed., 1983), p1419-1438.

Modelling Sediment Transport in a Deep Ocean Environment, Stephen R. McLean, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p120.

Movable-Bed Tidal Inlet Model, Subhash C. Jain, WW

Aug. 82, p326-342

Aug. 82, p326-342.
 Multi-Dimensional Modeling of Sediment Transport,
 William H. McAnally, W. Anthony Thomas and
 Ranjan Ariathurai, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p91-95.
 Natural Bar-Bypassing of Sand at a Tidal Inlet, Walter
 J. Sexton and Miles O. Hayes, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1479-1495.
 The Nearbore Sediment Transport Study, Bishard L.

The Nearshore Sediment Transport Study, Richard J.

Seymour, WW Feb. 83, p79-85. Numerical Modeling of Sedimentation Tanks, Emad Imam, John A. McCorquodale and J. K. Bewtra, HY Dec. 83, p1740-1754.

Physical Model Study of Weir Jetty Design, William C. Seabergh, (Coastal Structures '83, J. R. Weggel, ed., 1983), p876-893.

Predicting Transport on Beaches: The State of the Art Relative to Rivers, Cyril Galvin, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p188-194.

Primary Rippling of a Flat, Cohesionless Silt Bed, Peter A. Mantz, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p107-112.

Proceedings of the Conference on Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983,

Proceedings of the Eighteenth Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp.

The Rate of Longshore Sediment Transport and Beach Erosion Control, Yoshito Tsuchiya, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1326-1334.

Reflections on Rivers, Research, and Rouse, John F. Kennedy, HY Oct. 83, p1253-1271.
Remodified Einstein Procedure for Sediment Load, Hsieh W. Shen and Cary S. Hung, HY Apr. 83,

p565-578. Resistance to Flow in Alluvial Channels, Gerd Holtorff,

Resistance to Flow in Autovia Channels, verd riottorir, HY Sept. 82, p1010-1028. River Channel Changes: The Lower Mississippi, Chester C. Watson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p214-226

p214-226.
Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.
Saltation in Water Dynamics, Peter J. Murphy and Hamid Hooshiari, HY Nov. 82, p1251-1267.
Sand Movement into Carmel Submarine Canyon,

California, J. R. Dingler and R. J. Anima, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1268-1287.

Sand Transport Limits in Coastal Structure Designs, Robert J. Hallermeier, (Coastal Structures '83, J. R. Weggel, ed., 1983), p703-716. Sediment Analyses for Urbanizing Watersheds, Gary R. Dyhouse, HY March 82, p399-418.

Eynouse, FI March 82, p399-418. Sediment and Fluid Interaction in Open Channels, Nobuhisa Kobayashi, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p603. Sediment Bypassing at Mixed Energy Tidal Inlets, Duncan M. FitzGerald, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1094-1118.

Sediment Transport and Beach Transformation, Tomoya Shibayama and Kiyoshi Horikawa, (Pro-ceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1439-1458.

Sediment Transport and Surf Zone Morphodynamics at Presque Isle, Pennsylvania, Dag Nummedal, (Coastal '83, Orville T. Magoon, et al, eds., 1983), p2612-2629.

Sediment Transport and Unit Stream Power Function, Chih Ted. Yang and Albert Molinas, HY June 82, p774-793.

Sediment Transport in Pool 19, Mississippi River, J. Rodger Adams and Nani G. Bhowmik, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p601.

Sediment Transport in Stratified Turbulent Flow, Bruce DeVantier and Bruce E. Larock, HY Dec. 83,

p1622-1635.

Sediment Transport in the Kankakee River Basin, Misganaw Demissie, Nani G. Bhowmik and J. Rodger Adams, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p600.

Sediment Transport Investigations in a New Zealand Tidal Inlet, K. P. Black and T. R. Healy, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2436-2457.

Sediment Transport under Sheet Flow Condition, Kiyoshi Horikawa, Akira Watan be and Sadakazu Katori, (Proceedings of Coastal Engineering 82, Vol.

Auton, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1335-1352.
Sediment Transport, Eugene H. Harlow, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p2603-2611.
Sediment-Contaminant Transport Model, Yasuo Onishi, HY Sept. 81, p1089-1107.

Sedimentological Influences of Detached Breakwaters, Dov Sergiu Rosen and Michael Vajda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1930-1949.

Shoreline Changes Downdrift of a Littoral Barrier, Craig H. Everts, (Coastal Structures '83, J. R. Weggel, ed., 1983), p673-689.

Statistical Properties of Sediment Movement, Hin-Fatt Cheong and Hsieh-Wen Shen, HY Dec. 83, p1577-

Steady Bed Material Transport in Alluvial Channels, Gerd Holtorff, HY March 83, p368-384. Study on Sediment Transport in a Power Station Harbor Basin, Kohki Maruyama, Ryoichi Kajima, Akio Narihiro and Kosuke Kondo, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983). p2357-2375

Survey Techniques/Procedures and Data Processing for Monitoring Nearshore Sediment Transport, J. Zacks,

Monitoring Nearshore Sediment Transport, J. Zacks, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1600-1619.

Two-Dimensional Model of Mud Transport, Peter Cole and Gordon V. Miles, HY Jan. 83, p1-12.

Understanding Beach Erosion and Accretion, William N. Seelig, WW Nov. 83, p490-494.

Unsteady Transport of Suspended Load at Small Concentrations, Pin-nam Lin, Juqing Huan and Xinquen Li, HY Jan. 83, p86-98.

Wave and Current Interaction in the Near Bed Region, Patrick H. Kemp and Richard R. Simons, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p404-412.

ediment yield

Reduction of Sediment Loss by No-Till Cultivation, J. D. Graf, J. Borrelli, K. J. Fornstrom and G. D. Jackson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), 9368-376.
Sediment Yields in Coastal Southern California, Brent

D. Taylor, HY Jan. 83, p71-85.

Analysis Method for Studying Sedimentation Patterns, J. Richard Weggel, WW May 83, p256-260.

Estimation of Soil Erosion in India, Dhruva V. V. Narayana and Ram Babu, IR Dec. 83, p419-434. Harbour Sedimentation—Comparison with Model, B. D. Pratte, D. H. Willis and J. Ploeg, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed.,

1983), p1119-1126. Hydraulic Considerations in Modernizing Ports, Chest-

er A. Peyronnin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p373-378.

Hydrosedimentological Studies in Bahia Blanca, R. V. Petroni, D. D. Serman and R. S. Escalante, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1231-1247.

Mt. St. Helens Impact on Cowlitz River Sedimentation, Bobby J. Brown and W. Anthony Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p147-152. Nonequilibrium Bedload Transport by Steady Flows, Robert G. Bell and Alex J. Sutherland, HY March 83.

p351-367. Particle Concentration Predictions in Settling Basins, David R. Schamber and Bruce E. Larock, EE June 83, p753-764.

os, p/33-764.

Particles in Thickening: Mathematical Model, Desmond F. Lawler, Philip C. Singer and Charles R. O'Melia, EE Apr. 83, p332-349.

Pass Cavallo, Texas: Case Study of Tidal-Prism Capture, George H. Ward, Jr., WW Nov. 82, p513-525.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N.

Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.

Routing Graded Sediments in Streams: Formulations Deva K. Borah, Carlos V. Alonso and Shyam N.

Deva K. Boran, Carlos V. Alonso and Snyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.

Sand Transport Limits in Coastal Structure Designs,

Robert J. Hallermeier, (Coastal Structures '83, J. R. Weggel, ed., 1983), p703-716.

Sediment Dynamics in Unsteady Nonprismatic Rills, Thomas E. Croley, II, (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p127-132.

Sediment Yields in Coastal Southern California, Brent

D. Taylor, HY Jan. 83, p71-85. Shoaling Processes in Navigable Waters, Task Committee on Causes and Effects of Shoaling of Navigable Waters of the Committee on Waterways of the gable waters of the Committee on which was on Waterway, Port, Coastal and Ocean Division, (James Neiheisel, chmn.), WW May 83, p199-221. Statistical Properties of Sediment Movement, Hin-Fatt Cheong and Hsieh-Wen Shen, HY Dec. 83, p1577-

Wastewater Treatment: Sensitivity Analysis, Makram T. Suidan, F. Michael Saunders, C. Stuckey Godfrey and Harry T. Stewart, EE Feb. 83, p120-138.

Sedimentation tanks
Dredged Material Sedimentation Basin Design, Raymond L. Montgomery, Edward L. Thackston and Frank L. Parker, EE Apr. 83, p466-484. Numerical Modeling of Sedimentation Tanks, Emad Imam, John A. McCorquodale and J. K. Bewtra, HY

Dec. 83, p1740-1754.

Clear-Water Scour at Cylindrical Piers, Arved J. Raudkivi and Robert Ettema, HY March 83, p338-

Design Capacity of Slurried Mineral Waste Ponds, W. David Carrier, III., Leslie G. Bromwell and Frank Somogyi, GT May 83, p699-716.

Somogy, O' May 35, 9057-716.
Dynamic Sediment Properties, Mississippi Delta, Sibel Pamukcu, J. K. Poplin, J. N. Suhayda and M. T. Tumay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983). pl11-132.

Investigations on Atchafalaya Bay Sediments, Allen M. Teeter, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p85-90.

Exit Gradient in Anisotropic Porous Medium, Govinda Chandra Mishra and A. Siva Reddy, HY June 83, p897-904.

Groundwater Contamination due to Continuous Sources, Anand Prakash, HY April 82, p572-90. Probabilistic Updating of Pore Pressure Fields, Waldemar Hachich and Erik H. Vanmarcke, GT March 83,

p373-387. Seepage Around Horizontal Drains in Hill Slopes, Edmund C. C. Choi, HY Oct. 83, p1363-1368.

Seepage from Free Water above Impermeable Tailing Lewis T. Isaacs and Bruce Hunt, GT Nov. 81, p1563-1577.

Seepage into Collection Galleries, Bruce Hunt, HY

Seepage Into Collection Olaineres, Bruce Huni, Fr June 83, p852-864. Stress and Seepage Analysis of Earth Dams, G. C. Li and C. S. Desai, GT July 83, p946-960. Two-Dimensional Dispersion from Strip Sources, Vedat Batu, HY June 83, p827-841. Unsteady Seepage Analysis of Wallace Dam, Mustafa M. Aral and Morris L. Maslia, HY June 83, p809-826.

Seepage control
An Aritifical Cobble Beach for Erosion Control, K. A. Downie and H. Saaltink, (Coastal Structures '83, J. R. Weggel, ed., 1983), p846-859.

Seismic analysis Seismic Analysis of Slender Coupled Walls, J. Dario

Aristizabal-Ochoa, ST July 83, p1538-1552. Seismic Analysis of Structures with Dampers, David Key, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p138-141.

Seismic Response of Buried Pipes and Structural

Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear

Structures and Materials, 1983, 56pp.
Seismic Risk Analysis of Structural Systems, Armen
Der Kiureghian, EM Dec. 81, p1133-1153.

Seismic design 1973 NRC Design Spectrum, Bijan Mohraz and Fawzi E. Elghadamsi, EY March 83, p37-42. Advisory Notes on Lifeline Earthquake Engineering, The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (Wil-

liam J. Hall, chmn.), 1983, 232pp.

Bridge Dynamic Tests: Implications for Seismic Design,
Bruce M. Douglas and Gary M. Norris, TC Apr. 83,

Cyclic Behavior and Design of Link Beams, Keith D. Hielmstad and Egor P. Popov, ST Oct. 83, p2387-

Determining Dynamic Eccentricity: A Simple Approach, S. T. Wu and E. V. Leyendecker, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p130-133.

Dynamic Response of Coupled Wall Systems, J. D. Aristizabal-Ochoa, ST Aug. 82, p1846-1857.
Earthquake Resistant Tensile Lap Splices, J. Dario

Aristizabal-Ochoa, ST Apr. 83, p843-858.
Eccentric Bracing in Tall Buildings, Andrew T. Merovich, Joseph P. Nicoletti and Earl Hartle, ST Sept. 82, p2066-2080.

handler Brokken, ST June 83, p1337-1361. Intermountain Power Project Seismic Criteria, Robert

P. McBean, Luis E. Escalante and Arthur W. Shively, TC Apr. 83, p73-87.

Modeling of R/C Joints under Cyclic Excitations, Filip

C. Filippou, Egor P. Popov and Vitelmo V. Bertero, ST Nov. 83, p2666-2684. San Francisco's Southwest Ocean Outfall, Y. Eisenberg

and D. D. Treadwell, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2418-2435.
Seismic Design, Analysis, and Remedial Measures to

Improve Stability of Existing Earth Dams-Corps of Engineers Approach, William F. Marcuson, III and Arley G. Franklin, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p65-78. Seismic Design and Analysis of Embankment Dams

Recent Bureau of Reclamation Experience, John D. Smart and Lawrence Von Thun, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p79-95.

Seismic Design Charts for Coupled Shear Walls, Amiya K. Basu, ST Feb. 83, p335-352.

Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983, 201pp.

Seismic Displacement Analysis of Earth Dams, Sarada

Seismic Displacement Analysis of Earth Dams, Sarada K. Sarma, GT Dec. 81, p1735-1739.
Seismic Energy Response of Structures, Bahram Safavi and Anne S. Kiremidjian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p218-221.

Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear

Structures and Materials, 1983, 56pp. Seismic Response of Friction Damped Braced Frames, Avtar S. Pall and Cedric Marsh, ST June 82, p1313-1323.

Seismic Safety: 10-Story UBC Designed Steel Building, Shih-Sheng Paul Lai, EM Apr. 83, p557-575. Seismically Induced Movement of Retaining Walls,

Farrokh Nadim and Robert V. Whitman, GT July 83, p915-931.

eismic effects

Inelastic Building Analysis Based on INRESB-3D-II, Franklin Y. Cheng and James A. Volker, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p501-514.

Seismic hazard

Advisory Notes on Lifeline Earthquake Engineering, The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (Wil-

liam J. Hall, chmn.), 1983, 232pp.

Dynamic Computional Analysis of Openings In Jointed Rock, C. H. Dowding, T. B. Belytschko and H. J. Yen, GT Dec. 83, p1551-1566.

Optimizations in Seismic Reliability of Lifelines, Jamshid Mohammadi, (Recent Advances in Engi-

neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p106-109. Some Considerations in the Selection of Design Earthquakes for Critical Structures, Dean Ostenaa and Louis R. Frei, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p1-9.

Seismic response
Computation of Inelastic Response Spectra, James M.

Nau, EM Feb. 83, p279-288. Critical Response Properties for Simple Systems, Bruce D. Westermo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p209-211.

Dynamic Analysis of Arch Dams Including Hydrodynamic Effects, John F. Hall and Anil K. Chopra,

EM Feb. 83, p149-167. Earthquake Response of Caverns in Jointed Rock: Effects of Frequency and Jointing, C. H. Dowding, C. Ho and T. B. Belytschko, (Seismic Design of abankments and Caverns, Terry R. Howard, ed., 1983), p142-156. Effect of Tuned-Mass Dampers on Seismic Response

John R. Sladek and Richard E. Klingner, ST Aug. 83,

Inelastic Earthquake Response of Steel Structures, Alvar M. Kabe and Dixon Rea, ST March 83,

p705-720.

Lateral Earthquake Response of Suspension Bridges,

Lateral Earthquake Response of Suspension Bridges, Ahmed M. Abdel-Ghaffar and Lawrence T. Rubin, ST March 83, p664-675.Seismic Energy Response of Structures, Bahram Safavi and Anne S. Kiremidjian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p218-221.

periode in Response Arising from Traveling Waves, James R. Morgan, William J. Hall and Nathan M. Newmark, ST Apr. 83, p1010-1027.
Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear Structures and Materials, 1983, 56pp.
Seismic Response of End Bearing Piles, Raul Flores

Berrones and Robert V. Whitman, GT April 82,

Seismic Response of Steep Slopes in Cemented Soils, Nicholas Sitar and G. Wayne Clough, GT Feb. 83,

Seismic Response of Submerged Oil Storage Tank, Chi C. Tung, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p299-302.
Seismically Induced Movement of Retaining Walls, Farrokh Nadim and Robert V. Whitman, GT July 83, p216-2015.

Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289. A Simple Dynamic Model for Asymmetrical Buildings,

Thambirajah Balendra and Seng-Lip Lee, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p633-645.

Seismic stability

Comparison of 2-D and 3-D Dynamic Analyses of Earth Dams, Lelio H. Mejia and H. Bolton Seed, GT

Earth Dams, Lelio H. Mejia and H. Bolton Seed, G. Nov. 83, p.1383-1398.

Seismic Stability of Nonhomogeneous, Anisotropic Slopes, Tomoyuki Sawada, Sumio G. Nomachi and Wai F. Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1009-1012.

A Glance of Research Facilities in Tsukuba, Japan, Leon Ru-Liang Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p597-600.

Necessary and Sufficient Conditions for Strong Motion Parameters, Bruce A. Bolt, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed.,

1983), p10-22. Shaking Table Testing Facilities Around the World, Asadul H. Chowdhury, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p617-620.

Some Considerations in the Selection of Design Earthquakes for Critical Structures, Dean Ostenaa and Louis R. Frei, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p1-9.

Seismic surveys
Avoiding OCS—Fisheries Resource Conflicts, Joseph
R. Williams, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p791-798.

Seismic tests

Large Scale Seismic Testing of Building Structures, Shin Okamoto, Takashi Kaminosono, Masayoshi Nakashima and Hiroto Kato, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p634-637.

Seismic Test Facilities for Building Structures in Japan, Katsuro Kamimura and Masayoshi Nakashima, (Recent Advances in Engineering Mechanics and Their

Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p538-641.

The Structures Laboratories at Imperial College, London, Patrick J. Dowling and Roger E. Hobbs, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p601-604.

Selsmic waves

Analysis of Tidal Records of the 1964 Alaskan
Tsunami, Basil W. Wilson, Proceedings of Coastal
Engineering 82, Vol. I, Billy L. Edge, ed., 1983),

Plate on Poroelastic Half Space Subjected to Seismic Waves, David G. Kurtanich and Paul Christiano, (Recent Advances in Engineering Mechanics and Their (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p174-177. Seismic Response Arising from Traveling Waves, James R. Morgan, William J. Hall and Nathan M. New-mark, ST Apr. 83, p1010-1027.

Adsorption of Arsenic and Selenium on Activated Alumina, Jill R. Yuan, Mriganka M. Ghosh, Steven M. Hornung and Ron J. Schlicher, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p433-441.

Sensitivity analysis

Identification for Soil-Structure Parameters, Ibrahim Hathout and M. A. Ismail, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p315-318.

Modeling Water Movement through Sanitary Landfills, Alexander C. Demetracopoulos and George P. Korfiatis, (Frontiers in Hydraulic Engineering, Hung

Tao Shen, ed., 1983), p54-59.

Revaluation of Oxygen Regimes in Fontana Reservoir, William J. Snodgrass, EE Dec. 83, p1424-1429.

Design of Modal Control of Structures, Oren Vilnay, EM Oct. 81, p907-915.

Septic tanks

Coastal Pollution from Septic Tank Drainfields, Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82,

Management of On-Site Disposal Systems: Case Study, Jerry Y. C. Huang, EE Aug. 83, p845-858. A Model for the Bacterial Contamination of Groundwater, M. Yavuz Corapcioglu and A. Haridas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p60-65.

Economic Service Life of Building Construction Equipment, Shlomo Selinger, CO Dec. 83, p398-405.

Effect of Oil Field Trucks on Light Pavements, John M. Mason, Jr., TE May 83, p425-439.

Settlement
Laterally Loaded Pile Behavior, Michael Georgiadis and Roy Butterfield, GT Jan. 82, p155-165.

Settlement analysis
Settlement of Raft Foundations, J. Neil Kay and
Richard L. Cavagnaro, GT Nov. 83, p1367-1382.
Thaw Settlement Analysis for Buried Pipelines in
Permafrost, Kenneth J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p300-325.

Settling basins
Particle Concentration Predictions in Settling Basins, David R. Schamber and Bruce E. Larock, EE June 83, p753-764.

Simulation of Flow in Rectangular Clarifiers, Emad Imam and John A. McCorquodale, EE June 83, p713-730.

Settling velocity
Two-Dimensional Model of Mud Transport, Peter Cole and Gordon V. Miles, HY Jan. 83, p1-12.

Confirmed Viruses versus Unconfirmed Plaques in Sewage, J. J. Bertucci, S. H. Abid, C. Lue-Hing, C. S. Clark, J. D. Fenters and K. F. Fannin, EE Apr. 83, p351-368.

Coastal Pollution from Septic Tank Drainfields, Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82, p1265-1279

Features of Federal Laws that Encourage Adoption of Land Application of Wastewater, Dean T. Massey,

Land Application of Wastewater, Death 1. Massey, WR Apr. 83, p121-133.

Ground-Water Mounding due to On-Site Sewage Disposal, E. John Finnemore and Norman N. Hantzsche, IR June 83, p199-210.

Lissimine FF Fluorescent Dye, Dennis E. Ford and Kent W. Thornton, EE Aug. 83, p952-955.

Management of On-Site Disposal Systems: Case Study, Jerry Y. C. Huang, EE Aug. 83, p845-858. Rational Design of Evapotranspiration Bed, Joseph A. Salvato, EE June 83, p646-660.

Sewage effluents

From Wastewater to Drinking Water, Richard P. Arber, CE Feb. 83, p46-49.

Predicting Algal Stimulatory Properties of Wastewater, Neil M. Ram and Patricia E. Austin, EE Oct. 83, p1099-1110.

Sewage sludge Features of Federal Laws that Encourage Adoption of Land Application of Wastewater, Dean T. Massey,

WR Apr. 83, p121-133.

Land Application of Sewage Sludge for Agricultural Reuse in Virginia, Thomas W. Simpson and Calmet M. Sawyer, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p878-

Planning Model for Land Application of Sewage Sludge, Douglas A. Haith, EE Feb. 83, p66-81. Soil Conditioning Effects of Municipal Sludge Com-post, A. C. Chang, A. L. Page and J. E. Warneke, EE June 83, p574-583.

Sewage treatment
Features of Federal Laws that Encourage Adoption of
Land Application of Wastewater, Dean T. Massey, WR Apr. 83, p121-133.
From Wastewater to Drinking Water, Richard P.

Arber, CE Feb. 83, p46-49. In Situ Chemical Treatment of Lagoon Effluents, M. John Cullinane, Jr. and Richard A. Shafer, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p81-88.

Lagoon Effluent Polishing with Intermittent Sand Filters, Jerry S. Russell, E. Joe Middlebrooks, Ronald F. Lewis and Edwin F. Barth, EE Dec. 83, p1333-

New Wastewater Process Cuts Plant Costs 60%, Stan A.

Christopher and Russel Titus, CE June 83, p39-41. Recovery of Wastewater Treatment Chemicals from Fly Ash, John W. Smith and Janet Condra, EE Oct. 83, p1168-1180.

Reservoir Modeling to Develop AWT Nitrate Standard, John P. Hartigan, EE Dec. 83, p1243-1258. Simulation of Single-Sludge Nitrogen Removal, Bill Batchelor, EE Feb. 83, p1-16.

Space Factor in Conflict Resolution in Arcata Coastal Zone Land Use Planning, Robert A. Gearheart, George H. Allen and Frank R. Klopp, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p708-728.

Treatment of Saline Domestic Wastewater Using RBCs, Nancy E. Kinner and Paul L. Bishop, EE Aug. 82,

p650-664.

Sewage treatment plants
The Abuse of Science in Sewage Planning, A Case
History, L. C. Loehr, E. E. Collias and W. W.
Broenkow, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1923-1934. Full Scale Testing to Estimate Actual Plant Capacity,

Ill Scale Testing to Estimate Actual Plant Capacity, Timothy M. Curran, Salvatore D'Angelo and Keith C. Rice, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p585-

GAO Calls for Better Guidance for Sewage Plant Inspectors, CE Apr. 83, p8.

Sewer Force Mains for a Congested Suburban Area, C. Peter Thomas, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p607-619.

Sewer design

Finite Element Simulation of Tunneling over Subways, Jamshid Ghaboussi, William H. Hansmire, Harvey W. Parker and Kwang J. Kim, GT March 83, p318-324.

Houston Plans Massive Sewer Line, CE Oct. 83, p22.

Evaluating External Pipeline Corrosion, William T. Mori and Gerald P. Dupoong, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p387-396.

First Concrete Pipe Sewer Uncovered, CE Feb. 83, p12. Geofabric Stabilization of Soft Backfill Materials for Plastic Sewer Pipe Installation, Jey K. Jeyapalan, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p188-198.

Sewer Force Mains for a Congested Suburban Area, C. Peter Thomas, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p607-619. Sewers: Repairing Beats Replacing, Allen Morrison, CE

Sept. 83, p60-64. What Type of Sewer Pipe is Best? Life-cycle Cost Analysis Yields Answer, Thomas Moss and Edward

J. Jankiewicz, CE Oct. 82, p75-76.

Advisory Notes on Lifeline Earthquake Engineering, The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (William J. Hall, chmn.), 1983, 232pp. Boston Tunes Up Water System, CE June 83, p48-50.

Flow Velocities in Pipelines, Richard D. Pomeroy, HY

Aug. 83, p1108-1117.

Management Control System San Diego Water Utilities, Richard W. King, (Improving Productivity, J. R. King Jr., ed., 1983), p89-98.

Old Sewer Line Restored, Leaving Historic Site Intact, CE April 83, p13-14.

Pipe-Jacking: State-of-the-Art in UK and Europe, T. E. Clarkson and J. C. Thomson, TE Jan. 83, p57-72.
Protection of Pipelines Subject to Surcharge Loads,
Eugene M. Kovach, TE Nov. 82, p540-549.
Sewers: Repairing Beats Replacing, Allen Morrison, CE

Sept. 83, p60-64.

Shallow Tunnel Reduces Impact on Community, CE Nov. 83, p19.

Design of Rigid Shafts in Clay for Lateral Load, Harry M. Coyle and Mark W. Bierschwale, GT Sept. 83, p1147-1164.

Drilled-Shaft Integrity by Wave Propagation Method,

Thomas M. Hearne, Jr., Kenneth H. Stokoe, II and Lyndon C. Reese, GT Oct. 81, p1327-1344. Large Diameter Double Underreamed Drilled Shafts

Ray E. Martin and Raymond A. DeStephen, GT

Aug. 83, p1082-1098.
Side Load Transfer in Driven and Drilled Piles,
Michael W. O'Neill, GT Oct. 83, p1259-1266.

hafts, excavations

Stability of Axisymmetric Excavations in Clay, Arul M. Britto and Osamu Kusakabe, GT May 83, p666-681.

Design of a Composite Shaking Table for Earthquake Simulation, A. M. Reinhorn and S. P. Prawel, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p725-736.

A Glance of Research Facilities in Tsukuba, Japan, Leon Ru-Liang Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p597-600.

Independent Three-Dimensional Shake Table Excitation and Its Future in Nuclear Power Qualification Programs, John C. Stoessel, Paul Ibanez, R. Steve Keowen and Peter E. Rentz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p630-633.

Inelastic Earthquake Response of Steel Structures, Alvar M. Kabe and Dixon Rea, ST March 83,

p705-720.

Seismic Test Facilities for Building Structures in Japan, Katsuro Kamimura and Masayoshi Nakashima, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p638-641.
Shaking Table Testing Facilities Around the World,

Asadul H. Chowdhury, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engi-neering Practice, W. F. Chen, et al, eds., 1983), p617-620.

hallow foundations

Bearing Capacity of Strip Footing above Void, R. L. Baus and M. C. Wang, GT Jan. 83, pl-14.

Seismic Response of Cooling Towers on Interactive Seismic Response of Cooling Iowers on Interactive Shallow or Deep Foundations, Bor-Jen Lee and Phillip L. Gould, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), 2247-250.
Shallow Foundation on Frozen Soils: A Bibliography.

Committee on Shallow Foundations of the Geotechnical Engineering Division of ASCE, GT Feb. 82, p285-291.

Shallow Foundations in Cold Regions: Design, Edward

C. McRoberts, GT Oct. 82, p1338-1349. Shallow Foundations on Frozen Soil: Creep Settlement, Branko Ladanyi, GT Nov. 83, p1434-1448.

Applications of a Numerical Shallow Water Waves Model, A. Haugel and P. H. Pechon, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p846-861.

Automated Digital Simulation of Tides & Long Waves, R. F. Henry, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p203-218.
A Finite Element Method for the Shallow Water Equations, A. Hauguel, G. Labadie and B. Latteux,

(Proceedings of Coastal Engineering 82, Vol. I, Billy L.

Edge, ed., 1983), p617-634.
Individual Wave Analysis of Irregular Wave Deformation in the Nearshore Zone, Masaru Mizuguchi, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p485-504.

Modeling Coastal Currents and Sediment Transport, Y.

Peter Sheng and H. Lee Butler, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1127-1148.

Prediction of Wave Height in Shallow Water, E. F. Thompson and C. L. Vincent, (Coastal Structures '83, J. R. Weggel, ed., 1983), p1000-1007.

Sand Movement into Carmel Submarine Canyon, California, J. R. Dingler and R. J. Anima, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1268-1287.
Solitary Wave Diffraction around Large Cylinder, Michael de St. Q. Isaacson, WW Feb. 83, p121-127.

Vertical Round Bouyant Jet in Shallow Water, Joseph H. W. Lee and Gerhard H. Jirka, HY Dec. 81, p1651-1675

Wave Height Distributions and Wave Grouping in Surf Zone, Hajime Mase and Yuichi Iwagaki, (Proceedings

of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p58-76.
Wind-Wave Growth with High Friction, Fred E. Camfield, WW Feb. 83, p115-117.

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Shape
On the Derivation of Harmonic and Neutral Holes, Gordon S. Bjorkman, Jr. and Rowland Richards, Jr., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p463-466.

Al, 1903, PAOS-400.

Shape Optimization of Structural Components, Jean W. Hou, Edward J. Haug and Kyung, K. Choi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p94-97.

Collapse Loads of Nonprestressed R/C Curved Beams, M. A. Mansur and B. V. Rangan, ST Apr. 83, p993-1009.

Concrete Bearing Capacity around Large Inserts, Edwin G. Burdette, W. Dale Jones and Kenneth E.

Fricke, ST June 83, p1375-1386.
Reinforced Concrete Beams under Bending, Torsion memoreed Concrete Beams under Bending, 104810n and Shear—A Finite Element Approach, Gerhard Mehlhorn and Gunter Schmidt Gonner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p706-709.
Wind Effects on Gas-Liquid Transfer Coefficients, Donald J. O'Connor, EE June 83, p731-752.

Shear deformation

Cracking and Shear Effects on Structural Walls, J. Dario Aristizabal-Ochoa, ST May 83, p1267-1277. A Failure Methodology Based on Shear Deformation, John E. Crawford, T. J. Holland, P. J. Mendoza and John E. Crawford, I. J. Holland, F. J. Mendoza and R. N. Murtha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p985-988. Large Deflection of Curved Beam with Shear Defor-mation, Izhak Sheinman, EM Aug. 82, p636-647.
Shear Deformation, in Seismic Frame, Structures.

Shear Deformation in Seismic Frame Structures,

Richard C. Fenwick, ST Apr. 83, p965-976. Timoshenko Beams on Linear Viscoelastic Foundations, Harutoshi Kobayashi and Keiichiro Sonoda, GG June 83, p832-844.

Shear effects

Cracking and Shear Effects on Structural Walls, Dario Aristizabal-Ochoa, ST May 83, p1267-1277.

Shear failure

A Failure Methodology Based on Shear Deformation, John E. Crawford, T. J. Holland, P. J. Mendoza and R. N. Murtha, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p985-988.

Design of Floor Slabs Coupling Shear Walls, Alexander Coull and Wong Yang Chee, ST Jan. 83, p109-125.

Shear Lag in Box Girders, Bogdan O. Kuzmanovic and H. James Graham, ST Sept. 81, p1701-1712.

Correlation Between G_o and τ_{max} for Kaolinite Clay, G. A. Athanasopoulos and F. E. Richart, GT May 83, p719-723.

Effect of Creep on Shear Modulus of Clays, George A Athanasopoulos and F. E. Richart, Jr., GT Oct. 83, p1217-1232.

Effect of Stress Release on Shear Modulus of Clays,

George A. Athanasopoulos and F. E. Richart, Jr., GT

Oct. 83, p1233-1245

Infinite Elements for Elastostatics of Half Spaces, R. K. N. D. Rajapakse and Pisidhi Karasudhi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p835-838.

Shear Modulus Bounds for Transverse Isotropy, Samuel Sutcliffe, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p778-781.

Cyclic Shear and Dowel Action Models in R/C, Rafael Jimenez, Richard N. White and Peter Gergely, ST May 82, p1106-1123.

Shear strength

2-D Finite Element Analysis of Massive RC Structures, Niels Saabye Ottosen, ST Aug. 82, p1874-1893. Corrected Field Vane Strength for Embankment Design, Amr S. Azzouz, Mohsen M. Baligh and Charles C. Ladd, GT May 83, p730-734.

Correlation Between G, and $\tau_{\rm ms}$ for Kaolinite Clay, G. A. Athanasopoulos and F. E. Richart, GT May 83,

p719-723.

Geotechnical Characterization of Desiccated Clay, Larry J. Mahar and Michael W. O'Neill, GT Jan. 83,

Optimal Strength and Stiffness Design of Beams, S. Kanagasundaram and Bhushan L. Karihaloo, ST

Jan. 83, p221-237.
Piecewise Linear Yield Criteria in Invariant Form,
Robert M. Haythornthwaite, EM Aug. 83, p1016-

Shear Strength of Clay in Centrifuge Models, Michael C. R. Davies and Richard H. G. Parry, GT Oct. 83, p1331-1337.

Shear Strength of R/C Beam-Column Connections, Donald F. Meinheit and James O. Jirsa, ST Nov. 81, p2227-2244

Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83,

p1836-1853.

Three-Dimensional Behavior of Sand with Anistropic Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct. 83, p1313-1328.

Shear stress

Computation of 3-D Flow and Shear in Open Channels, Chao-Line Chiu and Gwo-Fong Lin, HY Nov. 83, p1424-1440.

Discharge Assessment in Compound Channel Flow, Peter R. Wormleaton, John Allen and Panos Hadji-

panos, HY Sept. 82, p975-994. Energy Losses and Shear Stresses in Channel Bends, Raul Pacheco-Ceballos, HY June 33, p881-896. Erosion in Relation to Filter Design Criteria in Earth Dams, K. Arulanandan and Edward B. Perry, GT May 83, p682-698

Incipient Motion of Cohesive Soils, M. Krishnamurthy, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p96-101.

Incipient Motion of Sand Particles on Side Slopes, Syunsuke Ikeda, HY Jan. 82, p95-114.

Interfacial and Bed Shear Stresses in Saline Wedges, Vassilios Dermissis and Emmanuel Partheniades, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2474-2493. Orthotropic Beams under Normal and Shear Loading,

Terry D. Gerhardt and Jen Y. Liu, EM Apr. 83, p394-410.

Beam, Shih Toh Chang, ST July 82, p1648-1653. Shearing Stress in Plastic Bending of Wood Beam,

Snearing Stress in Plastic Bending of Wood Beam, Borislav D. Zakic, ST Apr. 83, p1042-1060. Theoretical Model for Collapse of Shear Webs, Cedric Marsh, EM Oct. 82, p819-832. Torsion of a Rectangular Bar with Two Circular Holes, Amir K. Naghdi, EM Apr. 83, p643-648. Wall Stress Distribution Due to Jet Impingement, Mohan D. Deshpande and Ramesh N. Vaishnav, EM Apr. 83, p479-493 Apr. 83, p479-493.

Finite Element Modeling of Concrete Failure in Shear, Kaspar William, Stein Sture and James Christensen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et Formulas for Wood Shear Walls, John T. Easley, Mehdi Foomani and Robert H. Dodds, ST Nov. 82,

p2460-2478

Mechanics of Fiber Reinforcement in Sand, Donald H. Gray and Harukazu Ohashi, GT March 83, p335-353. Shearing Stress in Plastic Bending of Wood Beam, Borislav D. Zakic, ST Apr. 83, p1042-1060. Strength of Anchor Bolts in Grouted Concrete Mason-

ry, Russell H. Brown and A. Rhett Whitlock, ST June 83, p1362-1374.

Stress-Deformation Properties of Loess and Loess-Derived Alluvium in Western Iowa, Joe M. Bradford and L. Darrell Norton, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p99-120.

Analysis of Complex Shear Wall Structures, B. S. Taranath, M. B. Kanchi, B. Kadaikal and M. Vasseghi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p622-632.

Analysis of Sheathed Wood-Stud Walls, Chung K. Cheung and Rafik Y. Itani, (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr. ed., 1983), p683-696.

Analysis of Wall-Frames by Lagrangian Multipliers, Y. Gilbert Antony and T. P. Ganesan, ST Feb. 83, p580-585.

Design of Floor Slabs Coupling Shear Walls, Alexander Coull and Wong Yang Chee, ST Jan. 83, p109-125. Finite Element for Shear Walls in Multistory Frames, William Weaver, Jr., Dong-Guen Lee and George

Derbalian, ST July 81, p1365-1369.

Formulas for Wood Shear Walls, John T. Easley, Mehdi Foomani and Robert H. Dodds, ST Nov. 82,

p2460-2478

Shear Walls Coupled by Cross Wall, Wai K. Tso, ST Aug. 83, p2010-2016.

Shearing

Spectral Properties of Turbulence and Reynolds Stress in a Shearing Flow, Toichiro Tsubaki and Toshimitsu Komatsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1242-1245.

Formulas for Wood Shear Walls, John T. Easley, Mehdi Foomani and Robert H. Dodds, ST Nov. 82, p2460-2478.

eet metal

Lifting of Heavy Elastic Sheet, C. -Y. Wang, EM Feb. 83, p47-53.

Sheet piles

Anchored Bulkheads with Sloping Dredge Lines, W. L. Shroeder and Phillippe Roumillac, GG June 83, p845-851.

Anchored Sheet-Pile Bulkheads: Design Practice, Gregory P. Tsinker, GT Aug. 83, p1021-1038. Cellular Cofferdam for Trident Drydock: Performance,

Max D. Sorota, Edward B. Kinner and Mark X. Haley, GT Dec. 81, p1657-1676.
Corrosion of Steel Sheet Piles in Port Structures, Valery

Buslov, WW Aug. 83, p273-295.

Exit Gradient in Anisotropic Porous Medium, Govinda
Chandra Mishra and A. Siva Reddy, HY June 83, p897-904

holding Capacity of Vertical Anchor Slabs in Granular Soil, Braja M. Das, (Coastal Structures '83, J. R. Weggel, ed., 1983), p379-392. Stability Analysis of Flexible Anchored Bulkheads, Boris S. Browzin, GT Aug. 83, p1113-1116. Wide Flange Concrete Sheet Pile Wharves, Alexander

Matlin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p389-401.

Sheet piling Corrosion of Steel Sheet Piles in Port Structures, Valery Buslov, WW Aug. 83, p273-295.

Periodically Supported Heavy Elastic Sheet, L. T. Watson and C. Y. Wang, EM June 83, p811-820.

Impact Damage in Reinforced Concrete Shell Structures, Yves Crutzen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p981-984.

Reinforced Concrete Shells—Analysis vs. Design, Ajaya K. Gupta and Habibollah Akbar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p702-705.

Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289.
Strength Design of Shell Membrane Reinforcement,
Morris N. Fialkow, ST Apr. 83, p891-908.

Coastal Pollution from Septic Tank Drainfields, Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82, p1265-1279.

Shells

Buckling Analysis of Stiffened Plates and Shells, Abdur Razzaque and Michael D. Mathers, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1083-1086

Computer Graphics for 3D Structural Analysis, John F. Abel, William McGuire and Anthony R. Ingraffea, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p594-607.

Geometrical Non-Linear Bending of Plates and Shells with Consideration of Loading History, Boris Krayterman and Gajanan M. Sabnis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p714-717.

Optimization of Connecting Shell, Boubacar Diallo and Fernand Ellyin, EM Feb. 83, p111-126.

Shear/Membrane Locking in Curved Finite Elements, Henryk Stolarski and Ted Belytschko, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p830-833. Tensegric Shell Behavior, Oren Vilnay and Siong S.

Soh, ST Aug. 82, p1831-1845.

Truncated Hollow Spheres, Terry D. Gerhardt and Shun Cheng, EM June 83, p885-895.

Measured Soil Response to EPB Shield Tunneling, G. Wayne Clough, Bryan P. Sweeney and Richard J. Finno, GT Feb. 83, p131-149.

Ship bridge collisions

Pier Protection for the Sunshine Skyway Bridge Replacement, Michael A. Knott and Michael R. Flanagan, (Proceedings of Ports 83, Kong Wong, ed., 1983), p555-569.

U.S. Coast Guard Delineates Today's Fendering Crisis and Its Solutions, CE June 83, p20-21.

Marine Elevator Transfer and Ship Repair Facility: Newfoundland Dockyard, St. John's, Newfoundland, A. A. Burgess, R. T. Parsons and A. King, (Proceedings of Ports 83, Kong Wong, ed., 1983), p690-703.

Measurement Techniques for Moored Ship Dynamics, J. Moes and S. G. Holroyd, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2641-2661. Moored Ship Response in Irregular Waves, E. P. D.

Moored Ship Response in Irregular Waves, E. P. O. Mansard and B. D. Pratte, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2621-2640. The Motions of a Moored Ship in a Harbor Basin, T. Sawaragi and M. Kubo, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2743-2762.

Proceedings of the Eighteenth Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp. The Response of Small Craft to Wave Action, M. Isaacson and A. G. Mercer, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p.2723-2742. Ship Motions Related to Deep Draft Channel Design,

Snip Modions Related to Deep Draft Channel Design, Scott Noble, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2662-2680. Study of Ship's Track and Motions at Port Taranaki, G. Greenstreet, (Proceedings of Coastal Engineering 82,

Billy L. Edge, ed., 1983), p2763-2772.

Wave-Induced Ship Motions in Harbour Entrances—A Field Study, A. C. van Wyk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2681-2699.

Coal Terminal, CE June 83, p60-61. Coastal Engineering in South Africa, K. S. Russell, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2322-2331.

Cost Comparison of Container Handling Techniques, George Christou Hatzitheodorou, WW Feb. 83, p54-62.

Important Aspects of Port/Railroad Interface, Winn B. Frank, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p299-318.

A New Panama Canal? George A. Makela, CE April

83, p58-61. Proceedings of Ports 83, Kong Wong, ed., 1983, 832pp.

Ships
Design of Ships for Ice Environments, Goran Liljestrom, (Design for Ice Forces, Dan R. Caldwell and
New York: ASCE, 1983), p99-118.

Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309.

Shoaning Analysis Method for Studying Sedimentation Patterns, J. Richard Weggel, WW May 83, p256-260. Channel Shoaling Prediction: A Method and Application, R. B. Harley and R. G. Dean, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1199-1218.

A Computer Model for the Refraction on Non-Linear A Computer Model for the Retraction on Non-Linear Waves, J. B. Crowley, C. A. Fleming and C. K. Cooper, (*Proceedings of Coastal Engineering 82, Vol. I*, Billy L. Edge, ed., 1983), p384-403.
An Efficient Numerical Algorithm for Wave Refraction/Shoaling Problems, Marc Perlin and Robert G.

Dean, (Coastal Structures '83, J. R Weggel, ed., 1983),

p988-999

Engineering Approach to Nonlinear Wave Shoaling, James Walker and John Headland, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed.,

1983), p523-542.

A Field Study of Waves in the Nearshore Zone, S. Hotta, M. Mizuguchi and M. Isobe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p38-57.
On the Relation between Changes in Integral Quantities of Shoaling Waves and Breaking Inception, Takashi Yasuda, Shintaro Goto and Yoshito Tsuchiya, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p22-37.
Prevention of Shoaling at Port Orford, Oregon, C. E. Chatham, HY Nov. 81, p1303-1316.

Shoaling Processes in Navigable Waters, Task Committee on Causes and Effects of Shoaling of Navigable Waters of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, (James

waterway, Port, Coasia and Ocean Division, (James Neiheisel, chmn.), WW May 83, p199-221. Shoaling with Bypassing for Channels at Tidal Inleit, Cyril Galvin, (*Proceedings of Coastal Engineering 82, Vol. II*, Billy L. Edge, ed., 1983), p1496-1513.

Shock waves A Universal Strouhal Law, Enso Levi, EM June 83, p718-727.

Shopping centers

Environmental Assessment of Campeau Shopping

Center, Fred A. Curtis, UP Sept. 83, p63-78.

Shore protection
Coastal Erosion—Protection Decisions, David M. Chapman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1605-1606.

Coastal Protection Devices-A Review, D. N. Foster, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1857-1872.

Concrete and Soil-Cement for Shore Protection in the Province of Quebec, Wayne S. Asaska and George H. Cameron, (Coastal Structures '83, J. R. Weggel, ed., 1983), p356-369.

Design Guidelines for Cable-Block Mat Shore Protection Systems, Javier Weckman and John M. Scales, (Coastal Structures '83, J. R. Weggel, ed., 1983),

p295-206.

p293-206.

Design of Dunes as Coastal Protection in the Delta
Area of the Netherlands, Ir. C. Visser, (Coastal
Structures '83, J. R. Weggel, ed., 1983), p792-805.

Erosion Control with Saltmarsh Vegetation, Hollis H.
Allen and James W. Webb, (Coastal Zone '83, Orville
T. Magoon, et al, eds., 1983), p735-748.

Floating Tire Breakwater Design Comparison, Craig T.

Bishop, WW Aug. 82, p421-426.

Performance of Sand-Filled Tube Shore Protection
Tuktoyaktuk, North West Territories, Canada, V. K. Shah, (Proceedings of Coastal Engineering 82, Billy L.

Shah, (Proceedings of Coastal Engineering 62, Billy L. Edge, ed., 1983), p1901-1913.
Prototype Testing of Dolosse to Destruction, T. Terao, K. Terauchi, S. Ushida, N. Shiraishi, K. Kobayashi and H. Gahara, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2062-2078.
The Regulation of Shoreline Structures, William K.

Allayaud, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1607-1616.

Responding to an SOS—Save Our Shores, E. R. Heiberg, III, L. A. Duscha and J. H. Lockhart, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2244-2163.

Results of Shoreline Erosion Demonstration Program, B. L. Edge and J. G. Housley, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1893-1900. Shore Protection at Venice: A Case Study, A. Muraca,

Proceedings of Coastal Engineering 82, Vol. II, Billy

L. Edge, ed., 1983), p1078-1093.

Shorefront Protection Conflicts upon Implementation, Christopher C. Pierson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1617-1626.

Soft Engineering Alternatives for Shore Protection, Timothy W. Kana, (Coastal Zone '33, Orville T. Magoon, et al, eds., 1983), p912-929.
The Value of Coastal Dunes as a Form of Shore

Ine value of Coastal Dunes as a Porm of Snore Protection in California, USA, Karl F. Nordstrom and Norbert P. Psuty, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p873-885.
Volunteer Based, Low-Cost Sand Dune Development, Stephen R. Gabriel, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p886-896.

Shoreline changes

Application of a Numerical Model to Prediction of Shoreline Changes, Matsuoka, Michio and Yasuomi Ozawa, (Coastal Structures '83, J. R. Weggel, ed., 1983), p646-659.

Applications of a Shoreline Prediction Model, Nicholas Kraus, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p632-645.

Beach Evolution Caused by Littoral Drift Barrier, Deva K. Borah and Armando Balloffet, (Coastal Structures '83, J. R. Weggel, ed., 1983), p690-702.

Beach/Dune Changes on Natural and Developed Coasts, Paul A. Gares, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1178-1194. Breakwaters for Beach Protection at Lorain, OH, Joan

Pope and Darlene D. Rowen, (Coastal Structures '83, J. R. Weggel, ed., 1983), p753-768.

Cape Formation as a Cause of Erosion on Adjacent Shorelines, Kenneth Finkelstein, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p620-640. Changes in the Coastal Morphology of Vrachati, Greece, C. I. Moutzouris and A. J. Rogan, (Pro-

ceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1028-1045.

Comprehensive Study of the Coast of California, Dan Muslin and Jan Devine, (Coastal Zone '83, Orville T.

Magoon, et al., eds., 1983), p1142-1152.

Description of Beach Changes Using an Empirical Predictive Model of Beach Profile Changes, Takaaki

Uda and Hiroshi Hashimoto, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983),

p1405-1418 Experiments on Beach Profile Change with a Large Wave Flume, Ryoichi Kajima, Takao Shimizu, Kohki Maruyama and Shozo Saito, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983),

p1385-1404.

Field Investigation of Beach Profile Changes and the Analysis Using Empirical Eigenfunctions, Hiroshi Hashimoto and Takashi Uda, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1369-1384.

Field Study on Onshore-Offshore Sediment Transport, Masataro Hattori, (Proceedings of Coastal Engineer 82, Vol. 11, Billy L. Edge, ed., 1983), p923-940.

Historical and Projected Shoreline Mapping, Stephen P. Leatherman, (Coastal Zone '83, Orville T. Magoon, et

al, eds., 1983), p2902-2910.

at, eds., 1983), p2902-2910.
Laboratory Study on the Influence of Detached Breakwater on Coastal Change, Nobuo Mimura, Takuzo Shimizu and Kiyoshi Horikawa, (Coastal Structures '83, J. R. Weggel, ed., 1983), p740-752.
Littoral Problems in the Portuguese West Coast, I. B.

Mota Oliveira, A. J. S. F. Valle and F. C. C. Miranda, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p1950-1969.

Littoral Processes in Campello Coasts, J. J. Diez and M. Arenillas, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p989-1007.
Low-Cost Measurements of Shoreline Change, Robert M. Clancy, Fred E. Camfield and Christine

Schneider, (Coastal Structures '83, J. R Weggel, ed., 1983), p717-726.

Navigation and Shore Erosion in Coastal Waterways, Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p207-211.

The Nearshore Sediment Transport Study, Richard J. Seymour, WW Feb. 83, p79-85.

New Buffalo Harbor Beach Nourishment, A. Kubek, (Coastal Structures '83, J. R. Weggel, ed., 1983), p832-845.

Rates of Coastal Bluff Retreat: Pismo Beach, California, Donald O. Asquith, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1195-1207.

Results of Shoreline Erosion Demonstration Program, B. L. Edge and J. G. Housley, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1893-1900. Science and the Designation Process under Federal Coastal Zone '83, Orville T. Magoon, et al, eds., (Castal Zone '83, Orville T. Magoon, et al, eds., 1983), p697-707.

Sea Level Rise and Shoreline Recession, Cyril Galvin, (Castal Zone '83, Orville T. Magoon, et al, eds.,

1983), p2684-2705.

Shoreline Changes Downdrift of a Littoral Barrier, Craig H. Everts, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p673-689.

Shoreline Changes Due to Various Sea-Level Rise Scenarios, Timothy W. Kana, Jacqueline Michel, Miles O. Hayes and John R. Jensen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2768-2776.

Storm Damage to San Francisco's Ocean Beach Resulting from the January 1983 Storms, R. M. Ecker, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2630.

Wave Data Discretization for Shore Line Processes Bernard Le Mehaute, John D. Wang and Chia-Chi Lu, WW Feb. 83, p63-78.

Proceedings of the Eighteenth Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp.

Creep of Concrete in Variable Environments, William L. Gamble, ST Oct. 82, p2211-2222.
Time-Dependent Analysis of PC Cable-Staved Bridges.

M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83, p1980-1996.

Signal processing
Earthquake Motions Using a New Data Processing
Scheme, S. Shyam Sunder and Betsy Schumacker, EM Dec. 82, p1313-1329.

Swell of Wyoming Montmorillonite and Sand Mixtures, Mehmit A. Sherif, Isao Ishibashi and B. W. Medhin, GT Jan. 82, p33-45.

Underpinning with Chemical Grout, W. C. Pete Parish Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Superhard Concrete Silos for MX, CE Jan. 83, p8.

Investigations on Atchafalaya Bay Sediments, Allen M. Teeter, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p85-90.

K_o- OCR Relationships in Soil, Paul W. Mayne and Fred H. Kulhawy, GT June 82, p851-872.

Primary Rippling of a Flat, Cohesionless Silt Bed, Peter

A. Mantz, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p107-112. Sensitivity of Very Hard Pliocene Marl, Panaghiotis C

Kotzias and Aris C. Stamatopoulos, GT Dec. 83, p1526-1533.

Slope Stability in Coarse Sediments, Nicholas Sitar, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p82-98.

Erosion Resistance of Cohesive Soils, William E. Kelly and Ronald C. Gularte, HY Oct. 81, p1211-1224. Geotechnical Characterization of Ohio Valley Soils, David M. Cregger, Peter J. Majeski and Thomas Y. Chang, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p387-404.

Yield Boundary for Cyclic Loading of a Silty Clay, A. F. L. Hyde and S. J. Ward, (Geotechnical Practice in Offshore Environment Stephen Wight, and New Company of the Company of the

Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p99-110.

Physical Modeling of Sea-Seabed Interactions, Tokuo Yamamoto, Shigeo Takahashi and Bruce Schuckman, EM Feb. 83, p54-72.

aple shear tests

Endochronic Modeling for Shear Hysteresis of Sand, Han-Chin Wu and Jiun-Chyuan Sheu, GT Dec. 83, p1539-1550.

Simplex method
Graphical Method of Optimization: A Short Cut, Sandor Popovics, CO June 82, p211-218.

Analysis and Design of Safety Appurtenances by Computer Simulation, Hayes E. Ross, Jr., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p54-71.
Comparison of Basin Performance Modeling Technique, Gary F. Goforth, James P. Heaney and Wayne

C. Huber, EE Oct. 83, p1082-1098.

Design of a Composite Shaking Table for Earthquake Simulation, A. M. Reinhorn and S. P. Prawel, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p725-736.

A Direct Automated Simulation of Plates Resting on Foundations, N. J. Salamon, F. F. Mahmoud and Y. -S. Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p443-446.

A New Two Dimensional Tidal Modelling System, J. P.

Benque, M. I. Chenin, A. Hauguel and S. Schwartz, (Proceedings of Coastal Engineering 82, Vol. I, Billy L.

Edge, ed., 1983), p582-597.

Probabilistic Estimating: Mathematics and Applica-tions, James E. Diekmann, CO Sept. 83, p297-308.

Simulation models

Calibration of NPS Model Loading Factors, John P. Hartigan, Thomas F. Quasebarth and Elizabeth Southerland, EE Dec. 83, p1259-1272. Design, Programming and Maintenance of HSPF, Robert C. Johanson and John L. Kittle, TC Apr. 83,

p41-57.

Experience with Curve Numbers in EPIC, J. R. Williams and K. G. Renard, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p282-289. Investigations on Orbital Velocities and Pressures in Irregular Waves, K. -F. Daemrick, W. -D. Eggert and

H. Cordes, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p297-311.

Kinetic Complexity in Estuary Eutrophication Models, Robert B. Ambrose, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p182-189.

Modeling Water Demands of Irrigation Projects, David R. Maidment and Paul D. Hutchinson, IR Dec. 83, Post-Audit of Lake Model Used for NPS Management,

John P. Hartigan, John A. Friedman and Elizabeth Southerland, EE Dec. 83, p1354-1370. Reservoir Modeling to Develop AWT Nitrate Standard.

John P. Hartigan, EE Dec. 83, p1243-1258. Simulation of Large-Scale Circulation in Harbors, Wen-Li Chiang and Jiin-Jen Lee, WW Feb. 82,

p17-31.

Water Quality Modeling of Shallow Surface Active Streams—A Case Study, Arun K. Deb, Jerry Klafter-Snyder, William G. Richards and Roy F. Weston, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p486-492.

Simulation usage

Bus Maintenance Planning with Computer Simulation, T. H. Maze, George C. Jackson and Utpal Dutta, TE May 83, p389-342.

Site evaluation

Nuclear Facilities Siting, Task Committee on Nuclear Effects of the Committee on Air Resources and Environmental Effects Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.), 1982, 62pp

Site investigation

The Geology and Soil Properties of a Project in S.E. Alaska, Jack A. Caldwell and Allan S. E. Moss, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p57-81.

mond N. Yong, ed., 1983), p. 21-81. Hydrosedimentological Studies in Bahia Blanca, R. V. Petroni, D. D. Serman and R. S. Escalante, (Pro-ceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p. 1231-1247. Instrumentation and Performance Observations Off-

shore, Elmo DiBiagio and Kaare Hoeg, (Geotechnical

Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p604-625. Marine Geotechnical Investigations, A Mature Technology, J. de Ruiter and A. F. Richards, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p1-24.

N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures, American Society of

Civil Engineers, 1983, 23pp.

Site preparation, construction Building a Port under Unusual Site Conditions, S. K. Sarkar, G. A. Munfakh and R. J. Castelli, (Proceedings of Ports 83, Kong Wong, ed., 1983), p269-283.

EPCOT, CE June 83, p38-40.

Geotechnical Engineering, Design and Construction, Port of Oakland, Mahmut Otus, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p129-140.

Hydrogeologic Models for Siting of Waste Facilities,

John F. Clerici and J. Edmund Baker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p90-97.

Landfill Site Selection in Louisiana, Terence J. McGhee, Vincent C. Provenza and Susan L. Titus, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p342-349.
Minnesota's Hazardous Waste Siting Criteria, Alan P.
Shilepsky and Robert B. Pulford, WR Apr. 83,

p165-173.

Siting a Near-Surface Disposal Facility for Low-Level Radioactive Wastes, David Siefken and Edward Hawkins, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p303-

Site selection studies

Nuclear Facilities Siting, Task Committee on Nuclear Effects of the Committee on Air Resources and Environmental Effects Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.), 1982, 62pp.

Skew bridges

Orientation of Ribs in Waffle-Slab Skew Bridges, John B. Kennedy, ST March 83, p811-816.

Recent Developments in Pavement Skid Resistance, Frederick E. Jordan and Richard C. Hasbrouck, CE Feb. 83, p64-67.

Skin friction, piles
Design Considerations for Offshore Piles, M. F. Randolph, (Geotechnical Practice in Offshore Engi-neering, Stephen Wright, ed., New York: ASCE, 1983), p422-439.

Circular Voided Concrete Slab Stiffnesses, G. Elliott and L. A. Clark, ST Nov. 82, p2379-2393.

Design of Floor Slabs Coupling Shear Walls, Alexander

Coull and Wong Yang Chee, ST Jan. 83, p109-125. A Direct Automated Simulation of Plates Resting on Foundations, N. J. Salamon, F. F. Mahmoud and Y. -S. Wang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

and I neir Impact on Civit Engineering Practice, W. F. Chen, et al, eds., 1983), p443-446.
Elastic Analysis of Laterally Loaded Frames, Donald J. Fraser, ST June 83, p1479-1489.
Flexural Strength of Square Spread Footing, Da Hua Jiang, ST Aug. 83, p1812-1819.
Moments in Edge Panels of Flat Plate Floors, A. S. Hall

and B. V. Rangan, ST Nov. 83, p2638-2650.

Throgs Neck Bridge: Why Did Its Deck Deteriorate?

Benjamin Forsyth and Frank L. Stahl, CE July 83,

Yield-Line Analysis of Slabs-on-Grade, Robert A. Baumann and Frank E. Weisgerber, ST July 83, p1553-1568.

Slack variables

On Finding the Initial Sag of a Circular Membrane, Mohamed Samy Mansour and Vernon Charles Matzen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p403-406.

Slides

San Luis Dam Slide—Operational Problems and Solutions, Raymond H. Williams and Daniel B. Steiner, (Accomplishments and Impacts of Reservoirs,

Gordon Green, et al, eds., 1983), p125-137.

Wave-Induced Slides in South Pass Block 70, Mississippi Delta, Robert G. Bea, Stephen G. Wright, Partha Sircar and Alan W. Niedoroda, GT Apr. 83, p619-644.

Contact-Slip Analysis Using Mixed Displacements, Robert B. Haber and John F. Abel, EM Apr. 83, p411-429.

Frictional Slip Between Layer and Substrate, David Schmueser, Maria Comninou and John Dundurs, EM Dec. 81, p1103-1118.

Slope deflection method Distribution of Deformations, Hasan A. Hejazi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p467-470.

Slope stability

Development and Stability of Colluvium in Nashville, Lawrence C. Weber and L. E. Wilson, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p234-245.

Geological Aspects of a Cutting Failure in Clay, Vincent Silvestri, Michel Soulie and Jean Lafleur, (Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p19-38. Geometric Concerns in Slope Stability Analyses, John M. Ting, GT Nov. 83, p1487-1491

Large Breakwater Toe Failures, A. W. Sam Smith and Angus D. Gordon, WW May 83, p253-255.

Loaded Areas on Cohesive Slopes, Amr S. Azzouz and Mohsen M. Baligh, GT May 83, p724-729. Seismic Response of Steep Slopes in Cemented Soils, Nicholas Sitar and G. Wayne Clough, GT Feb. 83,

p210-227.

Slope Erosion Related to Soil Freezing and Thawing on Mt. Fuji, Masaharu Fukue, So Anma and Shigeyasu Okusa, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p405-432.

Slope Stability in Coarse Sediments, Nicholas Sitar, (Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p82-98. Variational Methods and Upper Bound Theorem Enrique Castillo and Alberto Luceno, EM Oct. 83, p1157-1174.

Slope stabilization

Design Guidelines for Cable-Block Mat Shore Protection Systems, Javier Weckman and John M. Scales, (Coastal Structures '83, J. R. Weggel, ed., 1983), p295-206.

Anchored Bulkheads with Sloping Dredge Lines, W. L. Shroeder and Phillippe Roumillac, GG June 83, p845-851.

Design Charts for Rock Slopes Susceptible to Toppling, Caner Zanbak, GT Aug. 83, p1039-1062. The Effect of Bed Slope on Wave Characteristics, R. C.

Nelson, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p555-572.

V. Barthel, E. P. D. Mansard and E. R. Funke, (Coastal Structures '83, J. R. Weggel, ed., 1983),

Prototype Tests on Riprap under Random Wave Attack, J. D. Pitt and P. Ackers, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1820-1836.

1963), p1620-1958. Secondary Pressures of Waves Breaking on Seawall, M. Salih Kirkgöz, WW Nov. 83, p487-490. Seepage Around Horizontal Drains in Hill Slopes, Edmund C. C. Choi, HY Oct. 83, p1363-1368.

Edmund C. C. Colo, TH Cel. 3s, pls0-1308-Seismic Stability of Nonhomogeneous, Anisotropic Slopes, Tomoyuki Sawada, Sumio G. Nomachi and Wai F. Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983, p1009-1012. Slope Erosion Related to Soil Freezing and Thawing on

Mt. Fuji, Masaharu Fukue, So Anma and Shigeyasu Okusa, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p405-432.

Wave Runup on Idealized Structures, John P. Ahrens, (Coastal Structures '83, J. R. Weggel, ed., 1983), p925-938.

Sludge

Filter Press Dewatering of High Alum Water Treatment Plant Sludge, Olivia L. Chen, Douglas G. Chun, David K. Gill and Darryl E. Wong, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p110-117

Land Treatment of Synfuel Organic Sludges, Edward C. Davis, Margaret R. Helton and Della S. Marshall, EE

Oct. 83, p1068-1081.

Model of Vacuum Deodorization of Sludge Odorants, Jerry Y. C. Huang, George E. Wilson and Meng-Dawn Cheng, EE Aug. 83, p961-965. Pathogen Survival during Static Pile Composting of Municipal Wastewater Sludge, Paul L. Bishop, William R. Chesbro and Gail R. Zamarchi, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p381-390.

Sludge digestion Light Metal Cation Inhibition in Anaerobic Digestion, Edmund A. Kobylinski and Bruce A. Bell, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p399-402.

Model of Vacuum Deodorization of Sludge Odorants, Jerry Y. C. Huang, George E. Wilson and Meng-Dawn Cheng, EE Aug. 83, p961-965.

Effect of Feed Characteristics on Filter Press Performance, R. Srinivasaraghavan, Thomas J. Sullivan and Carl W. Reh, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p715-723.

European Experience in Coincineration, John G. Stroka, Richard E. Foerster, Carl M. Koch and John E. Spitko, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p366-374.

Integrated Wastewater Management, Bhagwan R. Kansakar and Chongrak Polprasert, EE June 83, p619-630.

Operation and Control of Municipal Co-Incineration Systems, Jeannette A. Semon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p375-380.

Prequalification and Testing of Compost Screens, John G. Stroka, Richard K. Perna, Harvey A. Brodsky, David R. Kindig and Amy L. Nabut, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p724-730. Soil Conditioning Effects of Municipal Sludge Compost, A. C. Chang, A. L. Page and J. E. Warneke, EE June 83, p574-583.

Sludge drying Drying of Metal Hydroxide Sludge Using Solar Energy Ronald E. Benson, Jr., Kenneth Chacey, Darrell Molzan and Francis Curry, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), 9456-463.
Sludge Conditioning and Particle Size Distribution, Paul T. Bowen and Thomas M. Keinath, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p391-398.

Sludge treatment

Activated Sludge: A Comparison of Oxygen and Air Systems, Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division ageinent of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chmn.), 1983, 112pp. Control of Activated Sludge Settling in an SBR, John Silverstein and E. D. Schroeder, (National Conference

on Environmental Engineering, Allen Medine, et al,

eds., 1983), p238-246. Effect of Feed Characteristics on Filter Press Performance, R. Srinivasaraghavan, Thomas J. Sullivan and Carl W. Reh, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p715-723.

Polymer Dosage Control in Dissolved Air Flotation,

Ronald Gehr and J. Glynn Henry, EE Apr. 83, p448-465.

Recovery of Wastewater Treatment Chemicals from Fly Ash, John W. Smith and Janet Condra, EE Oct. 83, p1168-1180.

Segregated Neutralization of Aluminum-Finishing Wastes for Sludge-Volume Reduction, F. Michael Saunders and J. M. Medero, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p884-891.

Slurries

Slurries Design Capacity of Slurried Mineral Waste Ponds, W. David Carrier, III., Leslie G. Bromwell and Frank Somogyi, GT May 83, p699-716.
Slurry Pipeline Operations in Cold Regions—Some Aspects, Anders Sellgren, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p682-693.

Slurry pipelines
Energy Efficiency of Arctic Transportation Systems. Derek M. Sherman and Edwin M. Rhoads, EY Dec. 83, p236-246.

Interstate Transfer of Water for Coal Pipelines, Dean T. Massey, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p98-104.

Mineral Port Requirements in Northwest Alaska, Derek M. Sherman, (Proceedings of Ports 83, Kong Wong,

ed., 1983), p415-426.

Slurry Pipeline Operations in Cold Regions-Some Aspects, Anders Sellgren, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p682-693. Transportation Issues Facing Coal Power Plant Devel-

opment, G. John Kurgan, (Emerging Energy/Envi-ronmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p24-28.

Slurry trenches

Arresting a Toxic Plume, Allen Morrison, CE Aug. 83, p35-37.

Small structures

Torsional Coupling and Earthquake Response of Simple Elastic and Inelastic Systems, Christopher L. Kan and Anil K. Chopra, ST Aug. 81, p1569-1588.

Ice and Snow Utilization in Cold Regions Construction, Kelly Crick and John D. McClellan, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p24-31.

Snow loads

Air-Supported Dome Deflated Again by Snow Loads, CE Feb. 83, p6. Ground Snow Loads for Structural Design, Bruce Ellingwood and Robert Redfield, ST Apr. 83, p950-964.

Roof Snow Loads for Structural Design, Michael J. O'Rourke and Ulrich Stiefel, ST July 83, p1527-1537.

Snowmelt Runoff Modeling Using Landsat Imagery, E. B. Jones, D. M. Frick, B. A. Shafer and A. Rango. (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p484-493.

Social aspects

Correlates of Community Development, Albert Schaffer and Ruth C. Schaffer, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p45-55.

Social impact Social and Environmental Impacts: Edens Project, Henry M. Yamanaka, TE Sept. 83, p721-732.

Social participation
Efficiency, Equity, and Drainage Design, David C.
Colony, El Apr. 83, p85-102.

Involvement of Engineers in Public Affairs, Milton Mortman, El Oct. 82, p251-262.

Social values

Rigs to Reefs, Dana Larson, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2845.

Solving III-Structured Sociotechnical Problems, Richard H. McCuen, EI Apr. 83, p113-126.

ocioeconomic status

Visual Intrusion Impact of Residential Traffic, Gerald R. Brown and Donald F. Park, TE Sept. 82, p468-483.

Soft soils

Soft soits
Chemical Profiles in Soft Clays and the Role of
Long-Term Diffusion, Robert M. Quigley and
Valerie E. Crooks, (Geological Environment and SOFT
Properties, Raymond N. Yong, ed., 1983), p5-18.
Embankment Failure on Clay near Rio de Janeiro, J. A.

Ramalho-Ortigao, Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479.

Softening
2-D Finite Element Analysis of Massive RC Structures, Niels Saabye Ottosen, ST Aug. 82, p1874-1893.
7-Ension Stiffening and Compression Softening in Concrete, Linda Leibengood, David Darwin and Robert H. Dodds, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1043-1046.

Soil analysis

Microstructure of Loess Soil in China Relative to Geologic Environment, Gao Guorui, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p121-136.

Soil cement

Concrete and Soil-Cement for Shore Protection in the Province of Quebec, Wayne S. Asaska and George H. Cameron, (Coastal Structures '83, J. R. Weggel, ed., 1983), p356-369.

Soil classification

Engineering Properties of Tropical Residual Soils, James K. Mitchell and Nicholas Sitar, (Engineering and Construction in Tropical and Residual Soils

Geotechnical Engineering Division, 1982), p30-57. Geological Factors Affecting Laterite Gravels, E. L. Krinitzsky and F. C. Townsend, (Geological Environment and Soil Properties, Raymond N. Yong, ed.,

1983), p137-149.

Green-Ampt Infiltration Model Parameters for Hydrologic Classification of Soils, Donald L. Brakensiek and Walter J. Rawls, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p226-233.
Resilient Characteristics of Brazilian Soils, Jacques de

Medina and Ernesto S. Preussler, GT May 82, p697-712.

Soil compaction
Impact Stresses During Dynamic Compaction, Paul W. Mayne and Jones S. Jones, Jr., GT Oct. 83, p1342-1346.

Optimum Moisture Content for Compacting Soils: One-Point Method, I. H. Hamdani, IR June 83,

Soil consolidation tests

Universal Compression Index Equation, Oswald Rendon-Herrero, GT Nov. 80, p1178-1200.

Soil deformation

1-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-1333

Soil dilatancy

Cavity Expansion in a Dilatant Geological Material, A. P. S. Selvadurai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p447-450.

Soil dynamics

Impact Stresses During Dynamic Compaction, Paul W. Mayne and Jones S. Jones, Jr., GT Oct. 83,

Nonlinear Torsional Dynamic Response of Footing, Robert Henke, F. E. Richart, Jr. and Richard D. Woods, GT Jan. 83, p72-88.

Estimation of Soil Erosion in India, Dhruva V. V. Narayana and Ram Babu, IR Dec. 83, p419-434.
Experience with Curve Numbers in EPIC, J. R.
Williams and K. G. Renard, (Advances in Irrigation
and Drainage, John Borrelli, ed., 1983), p282-289.

Soil freezing tests

Undisturbed Sampling of Saturated Sands by Freezing, Sukhmander Singh, H. Bolton Seed and Clarence K. Chan, GT Feb. 82, p247-264.

Soil investigations
Deep Water Soil Investigation: Planning to Results,
Tor-Inge Tjelta, Peter H. Watt and Derek W. F.
Senner, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983),

p166-180.

183

Landslides in Soils Overlying Franciscan Assemblage. Vincent N. Pascucci, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182. Marine Geotechnical Investigations, A Mature Technology, J. de Ruiter and A. F. Richards, (Geotechnical

Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p1-24.

Probabilistic Soil Exploration: Case History, Tien H. Wu and Kinfun Wong, GT Dec. 81, p1693-1711.

A Study of the Geotechnical Properties of Milwaukee Area Soils, P. N. Singh, S. V. Tatioussian and C. G. Flagg, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p269-309.

Soil, lavered

1-D Consolidation of Periodically Layered Soil, John R. Booker and R. Kerry Rowe, EM Dec. 83, p1319-

Development of P-Y Curves for Layered Soils, Michael Georgiadis, (Geotechnical Practice in Offshore Engi neering, Stephen Wright, ed., New York: ASCE, 1983), p536-545.

Soil layers
Geotechnical Characterization of Ohio Valley Soils, David M. Cregger, Peter J. Majeski and Thomas Y. Chang, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p387-404.

An Improvement of Winkler Foundation, Abdul

Quddus Mohammed, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p439-442. Numerical Solutions for Biot's Consolidation of Lay-

ered Soil, Y. K. Cheung and L. G. Tham, EM June 83, p669-679.

Soil liquefaction

Analysis of Saturated Sand Deposit Liquefaction Potential in the Mid-West Coast of Taiwan, Ho-Shong Hou, F. B. Lee and L. G. Jiann, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2459-2477. Centrifugal Modeling of Soil Liquefaction Suscepti-bility, Kandiah Arulanandan, A. Anandarajah and

A. Abghari, GT March 83, p281-300.

Pipeline Shore Approach: Analysis and Design, Henry H. Chang and Jorge Ford, TE Nov. 83, p853-867.

Seismic Safety of Soil Deposits Against Liquefaction, J. E. A. Pires, Y. K. Wen and A. H. -S. Ang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

on CWI Engineering Fractice, W. F. Chen, et al, eds., 1983), 871-874.
Valdez Silts: A Challenge in Design of Offshore Facilities, J. P. Singh and D. W. Quigley, Geotechnical Fractice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p81-98.

Soil loss equation

Estimation of Soil Erosion in India, Dhruva V. V. Narayana and Ram Babu, IR Dec. 83, p419-434.

Soil mechanics

Beam Elements on Two-Parameter Elastic Foundations, Feng Zhaohua and Robert D. Cook, EM Dec. 83, p1390-1402.

Computational Aspects of Strain-Space Plasticity, Wilfred D. Iwan and Paul J. Yoder, EM Feb. 83.

p231-243.

Drained Axisymmetric Loading of Reinforced Clay, Terence S. Ingold and Keith S. Miller, GT July 83, p883-898. Drilled-Shaft Integrity by Wave Propagation Method,

Thomas M. Hearne, Jr., Kenneth H. Stokoe, II and Lyndon C. Reese, GT Oct. 81, p1327-1344. Erosion Resistance of Cohesive Soils, William E. Kelly and Ronald C. Gularte, HY Oct. 81, p1211-1224.

Geological Environment and Soil Properties, Raymond N. Yong, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p1-4. Geotechnical Perspective on River Bank Instability,

James V. Hamel, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p212-217.

Hysteretic Endochronic Theory for Sand, Zdenek P.
Bazant, Raymond J. Krizek and Chin-Long Shieh,

EM Aug. 83, p1073-1095.

Initial Value Problems of Soil Mechanics, Jey K. Jeyapalan and Mark Lamborn, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983). p527-530.

Landslides in Soils Overlying Franciscan Assemblage Vincent N. Pascucci, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182. Lateral Response of Fixed-Head Pile, Prabhakar J. Pise,

GT Aug. 83, p1126-1131. Mechanics of Fiber Reinforcement in Sand, Donald H. Gray and Harukazu Ohashi, GT March 83, p335-353. Mechanics of Soil-Heat Interaction and Its Thermal Storage Capacity, Hsai-Yang Fang and Ronald C. Chaney, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p786-789.

Obtaining Moduli from Cyclic Pressuremeter Tests, Jean-Louis Briaud, Robert L. Lytton and Jung-Tsann

Hung, GT May 83, p657-665.

Permeability and Consolidation of Normally Consolidated Soils, A. Mahinda Samarasinghe, Yang H. Huang and Vincent P. Drnevich, GT June 82, p835-850.

Piecewise Linear Yield Criteria in Invariant Form, Robert M. Haythornthwaite, EM Aug. 83, p1016-

1022

Plastic Limit Behavior of Reinforced Earth, Andrzej Sawicki, GT July 83, p1000-1005.

Porous Medium Deformation in Multiphase Flow, Bear and George F. Pinder, GT May 83, p734-737. Pulverized Coal Ash as Structural Fill, Gerald

Leonards and Bruce Bailey, GT April 82, p517-531. Reinforced Clay Subject to Undrained Triaxal Loading, Terence S. Ingold, GT May 83, p738-744.

Repetitive Load Deformation of Cohesionless Soil,

Vishnu A. Diyaljee and Gerald P. Raymond, GT Oct. 82, p1215-1229.
Shear Strength of Clay in Centrifuge Models, Michael

C. R. Davies and Richard H. G. Parry, GT Oct. 83, p1331-1337.

Soil Mechanics Related to Permeability Anisotropy of Coastal Sand Deposits, Rufus T. Getzen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2413-2430.

Variational Methods and Upper Bound Theorem, Enrique Castillo and Alberto Luceno, EM Oct. 83, p1157-1174.

Soil moisture

Data-Based Evaluation of the Curve Number Method, Robert J. Montgomery and Paul E. Clopper, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p290-297.

Drought Analysis and Soil Moisture Prediction, Graeme M. Smart, IR June 83, p251-261.

A Farmer Operated Irrigation Scheduling Procedure, Ron D. Bliesner and Robert W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p259-266

Modeling Water Demands of Irrigation Projects, David R. Maidment and Paul D. !!utchinson, IR Dec. 83,

Soil Surface Evaporation and Water Table Depths, Sun F. Shih, IR Dec. 83, p366-376.

Two-Dimensional Exponential Infiltration Equations, Yu-Si Fok, Sang-Ok Chung and Clark C. K. Liu, IR Dec. 82, p231-241. Vertical Migration of Organic Pollutants during Infil-tration, Randall J. Charbeneau and Howard M.

Liljestrand, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p48-53.

Volume-Accuracy Relationship in Soil Moisture Sam-pling, Mark E. Hawley, Richard H. McCuen and Thomas J. Jackson, IR March 82, pl-11.

Soil moisture content

Optimum Moisture Content for Compacting Soils: One-Point Method, I. H. Hamdani, IR June 83, p232-237.

Soil moisture movement

Observations on Moisture Movement in a Natural Expansive Soil, Raymond N. Yong, Madan L. Sadana and Blair Gohl, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p200-220.

Soil permeability

Permeability-Anisotropy due to Particle Shape, K. -J. Witt and J. Brauns, GT Sept. 83, p1181-1187.

Probabilistic Updating of Pore Pressure Fields, Waldemar Hachich and Erik H. Vanmarcke, GT March 83, p373-387.

Vadose Zone Permeability Tests: Summary, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p623-639.

Soil pipe interaction
Lateral Soil Resistance in Soil Pipe Interaction, A. P. S.
Selvadurai, J. J. Lee, R. A. A. Todeschini and N. F. Somes, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p259-278.

A Soil Structure Interaction Problem for a Group of Connected Flexible Pipelines, A. P. S. Selvadurai, (Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p199-211.

Soil pressure
In Situ Stress Determination by Iowa Stepped Blade,
Richard L. Handy, Bernard Remmes, Steven Moldt,
Richard C. Handy, Bernard Remmes, Steven Moldt,
Richard Care Trott GT Nov. 82. Alan J. Lutenegger and Gary Trott, GT Nov. 82, p1405-1422.

Soil properties

Engineering Properties of Tropical Residual Soils, James K. Mitchell and Nicholas Sitar, (Engineering James K. Mitchell and Nicholas Sitar, (Engineering and Construction in Tropical and Residual Soils, Geotechnical Engineering Division, 1982), p30-57. Geological Environment and Soil Properties, Raymond N. Yong, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p1-4. Geology and Soil Properties of Winnipeg, Andrew Baracos, James Graham, Bruce H. Kjartanson and Docald H. Skield Geological Construction of Sci.

Donald H. Shields, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p39-56.

Green-Ampt Infiltration Parameters from Soils Data, Walter J. Rawls, Donald L. Brakensiek and Norman Miller, HY Jan. 83, p62-70.

An Improved Consolidation Law of Highly Compressive Clays, Ricardo Salazar, Tsu T. Soong and Francis A. Cozzarelli, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1013-1015.

Landslides in Soils Overlying Franciscan Assemblage, Vincent N. Pascucci, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182. Modified Duncan Model and Its Implementation,

Zhang Ke-jian and Zhang Xiang-lin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1020-1023.

Plastic Limit Behavior of Reinforced Earth, Andrzej

Sawicki, GT July 83, p1000-1005. Resilient Characteristics of Brazilian Soils, Jacques de Medina and Ernesto S. Preussler, GT May 82, p697-712.

Soil Conditioning Effects of Municipal Sludge Compost, A. C. Chang, A. L. Page and J. E. Warneke, EE June 83, p574-583.

A Study of the Geotechnical Properties of Milwaukee Area Soils, P. N. Singh, S. V. Tatioussian and C. G. Flagg, (Geological Environment and Soil Properties,

Raymond N. Yong, ed., 1983), p269-309.

Three-Dimensional Behavior of Sand with Anistropic Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct.

83, p1313-1328.

Uncertainty in Bearing Capacity of Sands, Thomas S. Ingra and Gregory B. Baecher, GT July 83, p899-914.

Soil resistance

Soli Resistance in Soil Pipe Interaction, A. P. S. Selvadurai, J. J. Lee, R. A. A. Todeschini and N. F. Somes, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p259-278.

Soil sampling

Characteristics of Guri Soils, Z. Prusza, D. E. Kleiner and A. V. Sundaram, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p183-199.

P103-159.
Volume-Accuracy Relationship in Soil Moisture Sampling, Mark E. Hawley, Richard H. McCuen and Thomas J. Jackson, IR March 82, p1-11.

Experimental Study of Earth Loads on Rigid Pipes, Elmer L. Matyas and John B. Davis, GT Feb. 83, p202-209.

Soil, shear strength

Development and Stability of Colluvium in Nashville, Lawrence C. Weber and L. E. Wilson, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p234-245.

Drained Axisymmetric Loading of Reinforced Clay, Terence S. Ingold and Keith S. Miller, GT July 83,

Geotechnical Properties of Residual Tropical Soils, R. A. Lohnes and T. Demirel, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983),

Lateral Soil Resistance in Soil Pipe Interaction, A. P. S. Selvadurai, J. J. Lee, R. A. A. Todeschini and N. F. Somes, (Pipelines in Adverse Environments II, Mark

Pickell, ed., 1983), p259-278

Mechanisms of Strength for Frozen Sand, John M. Ting, R. Torrence Martin and Charles C. Ladd, GT Oct. 83, p1286-1302.

Probabilistic Soil Exploration: Case History, Tien H. Wu and Kinfun Wong, GT Dec. 81, p1693-1711. Repetitive Load Deformation of Cohesionless Soil, Vishnu A. Diyaljee and Gerald P. Raymond, GT Oct.

82, p1215-1229. Shear Strength Interpretation for Gulf of Mexico Clay G. W. Quiros, A. G. Young, J. H. Pelletier and J. H-C Chan, (Geotechnical Practice in Offshore Engineering, Stepehn Wright, ed., New York: ASCE, 1983), p144-165.

Shear Strength of Clay in Centrifuge Models, Michael C. R. Davies and Richard H. G. Parry, GT Oct. 83,

p1331-1337.

Static Plate Loading Tests on Overconsolidated Clay, Knut H. Andersen and Per Stenhamar, GT July 82,

Tertiary Creep Model for Frozen Sands, John M. Ting,

GT July 83, p932-945. Theoretical Development of the Distribution of Soil Strength, Kingsley O. Harrop-Williams, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p944-947.

Three-Dimensional Behavior of Sand with Anistropic Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct.

83, p1313-1328.

oil stabilization Fabric Layers Stabilize Soils for Roadway Expansion. CE July 83, p24.

Theoretical Development of the Distribution of Soil Strength, Kingsley O. Harrop-Williams, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p944-947.

Porous Medium Deformation in Multiphase Flow, J. Bear and George F. Pinder, GT May 83, p734-737.

Stress-Deformation Properties of Loess and Loess-Derived Alluvium in Western lowa, Joe M. Bradford and L. Darrell Norton, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p99-120.

Mechanisms of Strength for Frozen Sand, John M. Ting, R. Torrence Martin and Charles C. Ladd, GT Oct. 83, p1286-1302.

Microstructure of Loess Soil in China Relative to

Geologic Environment, Gao Guorui, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p121-136.

Soil structure interaction

A Soil Structure Interaction Problem for a Group of Connected Flexible Pipelines, A. P. S. Selvadurai, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p199-211.

Characteristics of Guri Soils, Z. Prusza, D. E. Kleiner and A. V. Sundaram, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p183-199.

Displacements and Strains Around Probes in Sand, John L. Davidson and Alireza Boghrat, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p181-202.

Membrane Penetration in Triaxial Tests, K. V. Ramana

and V. S. Raju, GT Feb. 82, p305-310.

Stress-Deformation Properties of Loess and Loess-Derived Alluvium in Western Iowa, Joe M. Bradford and L. Darrell Norton, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p99-120.

Undisturbed Sampling of Saturated Sands by Freezing, Sukhmander Singh, H. Bolton Seed and Clarence K. Chan, GT Feb. 82, p247-264.

Soil treatment

Engineering Parameters for Soil Treatment of Polynuclear Aromatic Compounds, Ronald C. Sims and M. R. Overcash, (National Conference on Environ mental Engineering, Allen Medine, et al, eds., 1983), p479-485.

Landfill Site Selection in Louisiana, Terence J. McGhee, Vincent C. Provenza and Susan L. Titus, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p342-349.

Soil water

Green-Ampt Infiltration Model Parameters for Hydrologic Classification of Soils, Donald L. Brakensiek and Walter J. Rawls, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p226-233.

Soil-pipe Interaction
Soil-Pipe Interaction and Pipeline Design, Syed Ahmed,
Ralph W. McMickle and Carl L. Brassow, TE Jan. 81, p45-58.

Soll—pipe Interaction
Stiff Soils—An Adverse Environment for Stiffness
Pipes, K. K. Kienow and R. C. Prevost, (Pipelines in
Adverse Environments II, Mark Pickell, ed., 1983), p431-455.

Soils

Comment on Orthotropic Models for Concrete and Geomaterials, Zdenek P. Bazant, EM June 83,

On a Curve Description Model for Soils, J. U. Khandoker and R. C. Batra, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1016-1019

Reinforced Soil Beams, K. J. Gaind and A. N. R. Char, GT July 83, p977-982

Stability Analysis of Flexible Anchored Bulkheads, Boris S. Browzin, GT Aug. 83, p1113-1116.

Soils, saturated

Assessing Waterlogging Controls I: Hydrologic Model, H. J. Morel-Seytoux, A. R. Simpson and R. A. Young, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p124-133.

Assessing Waterlogging Controls II: Impact Forecasts, R. A. Young, H. J. Morel-Seytoux and A. R. Simpson, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p134-140.

Dynamic Fluid-Structure-Soil Interaction, Jean H.
Prevost and Thomas J. R. Hughes, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p133-143.

Soil-structure

Stresses in Buried Cylindrical Tanks, Rudolf E. Elling, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p451-454.

Soil-structure interaction Alluvial Fan Hazards at Glenwood Springs, R. G. Mock and S. L. Pawlak, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983). p221-233

Cooling Towers on Flexible Foundations, Julian A. Dumitrescu, James G. Croll and David P. Billington,

ST Oct. 83, p2248-2264.

Design of Underground Protective Structures, Felix S. Wong and Paul Weidlinger, ST Aug. 83, p1972-1979. Dynamic Behavior of Pile Groups, Mohammed M. Ettouney, Joseph A. Brennan and Michael F. Forte, GT March 83, p301-317.

Dynamic Centrifuge Modeling, K. Arulanandan and A. Anandarajah, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p626-629. Dynamic Fluid-Structure-Soil Interaction, Jean H.

Prevost and Thomas J. R. Hughes, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p133-143.

Dynamic Group Effect in Vertical Responses of Piles in Group, Toyoaki Nogami, GT Feb. 83, p228-243. Dynamic Stiffness of Embedded Foundations, H. T. Chen, J. M. Roesset and J. L. Tassoulas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., on CIVI Engineering Transition 1983), p.178-181.

Ground Movement Analysis of Earth Support System, C. K. Shen, S. Bang and L. R. Herrman, GT April 81,

p1609-1624.

Ground Movements Caused by Braced Excavations, Thomas D. O'Rourke, GT Sept. 81, p1159-1178. Identification for Soil-Structure Parameters, Ibrahim Hathout and M. A. Ismail, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983). p315-318.

An Improvement of Winkler Foundation, Abdul Quddus Mohammed, (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p439-442. Localized Nonlinear Effects in Soil-Structure Interaction, Ambar N. Mukherjee, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p165-189. p186-188.

New Subgrade Model Applied to Mat Foundations, John S. Horvath, GT Dec. 83, p1567-1587. Nonlinear Torsional Dynamic Response of Footing, Robert Henke, F. E. Richart, Jr. and Richard D. Woods, GT Jan. 83, p72-88.

Seismic Response of End Bearing Piles, Raul Flores-Berrones and Robert V. Whitman, GT April 82,

Torsional Behavior of Model Piles in Sand, R. N. Dutt and M. W. O'Neill, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p315-334.

Transversely Isotropic Medium with Lined Hole, K. Chandrashekhara and P. Gopalakrishnan, EM Apr.

83, p377-393.

Vibration of Asymetrical Building-Foundation Systems, Thambirajah Balendra, Chan Weng Tat and Seng-Lip Lee, EM Apr. 83, p430-449.

Simulation of Optical Properties of Black Chrome, Spencer T. Wu and Larry W. Masters, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1047-1050.

Solar energy Drying of Metal Hydroxide Sludge Using Solar Energy, Ronald E. Benson, Jr., Kenneth Chacey, Darrell Molzan and Francis Curry, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p456-463. EPCOT, CE June 83, p38-40. Passive Solar and Daylighting Cut Building's Energy

Use, CE Dec. 83, p58-59.

Solar ponds

Entrainment in a Thermohaline Double-Diffusive System, J. Atkinson and D. R. F. Harleman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p8-14.

Heat Extraction from Salt-Gradient Solar Pond, Koichi

Kinose, EY Sept. 83, p152-164.

Solar radiation

Estimating Potential Evapotranspiration, George H. Hargreaves and Zohrab A. Samani, IR Sept. 82, p225-230.

Mechanics of Soil-Heat Interaction and Its Thermal Storage Capacity, Hsai-Yang Fang and Ronald C. Chaney, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p786-789.

Temperature Stresses in Composite Box Girder Bridges, Walter H. Dilger, Amin Ghali, Mathew Chan, Mo S. Cheung and Marc A. Maes, ST June 83, p1460-1478.

Solid waste disposal Anaerobic Digestion of Municipal Solid Waste, Michael K. Stenstrom, Adam S. Ng, Prasanta K. Bhunia and Seth D. Abramson, EE Oct. 83, p1148-1158. European Experience in Coincineration, John G.

Stroka, Richard E. Foerster, Carl M. Koch and John E. Spitko, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p366-374

Land Suitability Analysis: Landfill Siting, William N. Lane and Robert R. McDonald, UP May 83, p50-61.

Landfill Site Selection in Louisiana, Terence J.

McGhee, Vincent C. Provenza and Susan L. Titus,

McGhee, Vincent C. Provenza and Susan L. 11us,
(National Conference on Environmental Engineering,
Allen Medine, et al, eds., 1983), p342-349.
Pittsfield, MA: Vicon's Waste to Energy Facility,
Llewellyn E. Clark and E. B. Mull, (National
Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p358-365.
Prediction Models for Sanitary Landfills, Haydar Erdogan, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p540-

Pulsed-Flow Air Classification for Waste-to-Energy, Richard Ian Stessel and J. Jeffrey Peiree, EY June 83,

Recovery of Wastewater Treatment Chemicals from Fly Ash, John W. Smith and Janet Condra, EE Oct. 83, p1168-1180.

Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-

Solid waste management 1983 National Conference on Environmental Engineering Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.

Comparison of Coal Gasification and Combustion

Residues, Ralph R. Turner and Philip D. Lowry, EE

Apr. 83, p305-320.

Hauling Distance and Transfer Station Location, Ely Anthony R. Ouano, EE Dec. 83, p1429-1433.

Optimization of Refuse Collection Systems, Anand V. Chiplunkar, S. L. Mehndiratta and P. Khanna, EE Dec. 81, p1203-1210.

Solid wastes

Chemical-Physical Leachate Treatment, John D. Keenan, R. Lee Steiner and A. Alexander Fungaroli,

EE Dec. 83, p1371-1384.

Compaction and Related Properties of Retorted Oil Shale, Wesley G. Holtz, GT Oct. 83, p1246-1258.

Comparison of Coal Gasification and Combustion Residues, Ralph R. Turner and Philip D. Lowry, EE Apr. 83, p305-320.

Energy from Waste Business to Grow, CE Feb. 83, p6. Instabilities in Air Classification of Fuels, Jeffrey B. Taub and J. Jeffrey Peiree, EY June 83, p74-87. Modeling Leachates at Landfill Boundaries, Haydar Erdogan and Ronald D. Neufeld, EE Oct. 83. p1181-1194.

Stabilization of Solid Waste in Landfills, Todd J. Bookter and Robert K. Ham, EE Dec. 82, p1089-

Coastal Applications of Side Scan Sonar, David R. Patterson and Joan Pope, (Coastal Structures '83, J. R. Weggel, ed., 1983), p902-910.

Criteria for Selecting Equilibrium or Kinetic Sorption Descriptions in Groundwater Quality Models, Aaron A. Jennings and David J. Kirkner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p42-47

Vertical Migration of Organic Pollutants during Infil-tration, Randall J. Charbeneau and Howard M. Liljestrand, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p48-53.

Coastal Engineering in South Africa, K. S. Russell, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2322-2331.

A South African Wave Climate Study, J. Rossouw, L. W. Coetzee and C. J. Visser, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p87-107.

South America In Search of Ancient Engineers, George F. Sowers, CE Oct. 83, p46-50.

Space frames Nonlinear Elastic Frame Analysis by Finite Element, Robert K. Wen and Jalil Rahimzadeh, ST Aug. 83, p1952-1971.

Reliability Based Design for Space Steel Frames, Yin-Yu Chen and Deh-Shiu Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Stochastic Response of Prototype Offshore Structure, Michael G. Grecco and Robert T. Hudspeth, ST May 83, p1119-1338.

Analytical Studies of Expansive Solids in Concrete, R. Iding and B. Bresler, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1028-1031.

Spatial distribution
Wave Height Distributions and Wave Grouping in Surf Zone, Hajime Mase and Yuichi Iwagaki, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p58-76. ecific energy

Minimum Specific Energy in Compound Open Chan-nel, Merritt E. Blalock and Terry W. Sturm, HY June 81, p699-717.

Column Rules of ACI, SSLC and LRFD Compared, Richard W. Furlong, ST Oct. 83, p2375-2386. Plans & Specs, CE Aug. 83, p18. Unjust Enrichment, CE Dec. 83

Multimode Bridge Response to Wind Excitations, Y. K. Lin and J. N. Yang, EM Apr. 83, p586-603.

Parametric Spectral Analysis, A. Ramachandra Rao and Ali Durgunoglu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), 9891-894. Spectral Analysis of Radar Data for Ballistics, James N.

Walbert, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p359-362.

How to Improve Conventions and Oral Presentations, Naomi Becker and Roland Pettitt, CE Dec. 83, p6.

Spherical shells
Forced Vibrations of a Submerged Elastic Shell. Tsung-chow Su, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p197-200. Truncated Hollow Spheres, Terry D. Gerhardt and Shun Cheng, EM June 83, p885-895.

Spillways

Aeration for Cavitation Protection of Uribante Spillway, H. W. Coleman, A. R. Simpson and L. M. de Garcia, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p438-443.

Conservatism of Probable Maximum Flood Estimates, Bi-Huei Wang and Russell W. Revell, HY March 83.

p400-408.

Design of Aeration Devices on Hydraulic Structures, F. G. DeFazio and C. Y. Wei, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p426-431. Earth Reinforced Dams: First in U.S., CE Oct. 83,

p60-63.

General Method for Critical Point on Spillways, Ian R. Wood, Peter Ackers and John Loveless, HY Feb. 83, p308-312.

The Influence of Dam Failure Probabilities on Spillway Analysis, David E. Langseth and Frank E. Perkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p459-464.

Measurements of Self-Aerated Flow on a Spillway, Paul R. Cain and Ian R. Wood, HY Nov. 81, p1425-1444. Performance of Air Slots in High Velocity Chutes, S. Karaki, T. E. Brisbane, A. R. Luecker and P. C. Chao, (Frontiers in Hydraulic Engineering, Hung Tao

Shen, ed., 1983), p444. Prevention of Cavitation on Chutes and Spillways, Henry T. Falvey, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p432-437.
Prototype and Model Test for Flow Acration in the Guri Dam Spillway, K. Zagustin, T. Mantellina and A. Patino, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p425.

Small Stream Channel Dam Aeration Characteristics, Thomas A. Butts and Ralph L. Evans, EE June 83,

p555-573.

Uniform Region of Self-Aerated Flow, Ian R. Wood, HY March 83, p447-461.

Spits, coastal

La Push, Washington-Is There a Solution to the Beach Erosion Problem? Maurice L. Schwartz, (Coastal Structures '83, J. R. Weggel, ed., 1983), p785-791.

Spring damping Truck Suspension Models, Krishnan Kutty Kunjamboo and Colin O'Connor, TE Sept. 83, p706-720.

prinkler irrigation

Upper Limit Lognormal Distribution for Drop Size
Data, James C. Bezdek and Kenneth H. Solomon, IR
March 83, p72-88.

Buckling of Columns with Nonmovable Boundaries Michael M. Bernitsas and Theodore Kokkinis, ST

Sept. 83, p2113-2128.

Elastic Stability of Curved Members, Chai Hong Yoo and Phillip A. Pfeiffer, ST Dec. 83, p2922-2940. Elastic Stability of I-Beam under Patch Loadings, Yoshihiro Takahashi, Sumio G. Nomachi, Shouji Toma and Takashi Mikami, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p1126-1129 Flexural-Torsional Buckling of Curved Members, Chai Hong Yoo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,
W. F. Chen, et al, eds., 1983), pl118-1121.
Inelastic Post-Buckling Analysis of Trusses, Manolis
Papadrakakis, ST Sept. 83, p2129-2147.
Inelastic Stability of Directionally and Rotationally
Besterial Impactors Steel Columns Sciences 1

Restrained Imperfect Steel Columns, Sriramulu Vinnakota, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1130-1133.

Irregular Wave Tests for Composite Breakwater Foundations, Katsutoshi Tanimoto, Tadahiko Yagyu and Yoshimi Goda, (Proceedings of Coastal Engineering

82, Billy L. Edge, ed., 1983), 2144-2163.

Large Deformation Analysis of Elastic-Plastic Frames, Aslam Kassimali, ST Aug. 83, p1869-1886.

Modified Kinematic Model: Application to Bed Forms, Charles C. S. Song, HY Aug. 83, p1133-1151.

Charles C. S. Song, H1 Aug. 63, p1133-1131.

Overall Stability of Anchored Retaining Walls, William F. Anderson, Thomas H. Hanna and Magued N. Abdel-Malek, GT Nov. 83, p1416-1433.

Post-Buckling Instability of Steel Beam-Columns, Masayoshi Nakashima, Takeshi Nakamura and Minoru Wakabayashi, ST June 83, p1414-1430.

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp.

Riprap Stability a Progress Report, Laurie Broderick, (Coastal Structures '83, J. R. Weggel, ed., 1983),

Stability Analysis of Flexible Anchored Bulkheads, Boris S. Browzin, GT Aug. 83, p1113-1116. Stiffener Effects on Torsional Buckling of Columns,

Sven Eilif Svensson and Carsten Munk Plum. ST

March 83, p758-772.
Thin-Walled Bar Theories, Morris Ojalvo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1115-1117.

Stability analysis Corrected Field Vane Strength for Embankment Design, Amr S. Azzouz, Mohsen M. Baligh and Charles C. Ladd, GT May 83, p730-734.

Design Charts for Rock Slopes Susceptible to Toppling, Caner Zanbak, GT Aug. 83, p1039-1062. Elastic Stability of Flexibly Connected Frames, Michael

H. Ackroyd and Kurt H. Gerstle, ST Jan. 83, p241-245

Embankment Failure on Clay near Rio de Janeiro, J. A. Ramalho-Ortigao, Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479.

Geometric Concerns in Slope Stability Analyses, John

M. Ting, GT Nov. 83, p1487-1491. Higher Order Instabilities in Single Mode Structures, David Hui, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1091-1094. Internal Force Distribution Effect on Framework

Stability, George D. Manolis and Dimitrios E. Beskos, ST Jan. 83, p250-257.

Stability Analysis for a Rubble-Mound Foundation through Irregular Wave Test, Masato Yamamoto and Tsutomu Asakawa, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2129-2143.
Stress and Seepage Analysis of Earth Dams, G. C. Li and C. S. Desai, GT July 83, p946-960.
Variational Methods and Upper Bound Theorem,

Enrique Castillo and Alberto Luceno, EM Oct. 83, p1157-1174.

Stability criteria

Dynamic Stability of Kelvin-Viscoelastic Column, G. Ahmadi and P. G. Glockner, EM Aug. 83, p990-999.
Minimum Energy and Energy Dissipation Rate,
Charles C. S. Song and Chin Ted Yang, HY May 82, p690-706.

Tensegric Shell Behavior, Oren Vilnay and Siong S. Soh, ST Aug. 82, p1831-1845.

Stabilization

Pier Stabilization Eliminates Need to Reconstruct Damaged Bridge, Peter B. Tubbs, CE Nov. 83,

Standard penetration tests

Liquefaction Sites, Imperial Valley, California, T. Leslie Youd and Michael J. Bennett, GT March 83, p440-457.

Scale Effects of Ultimate Pile Capacity, George G.

Meyerhof, GG June 83, 797-806.

SPT - CPT Correlations, P. K. Robertson, R. G. Campanella and A. Wightman, GT Nov. 83, p1449-1459

First ASCE Standard on the Market, Others in the Works, CE Nov. 83, p78.

Map Content and Symbols: Chapter V of Proposed Manual on Map Uses, Scales, and Accuracies for Engineering and Associated Purposes, Robert P. Jacober, Jr., SU Nov. 80, p41-72.

N-725 Guideline for Design and Analysis of Nuclear Safety Related Earth Structures, American Society of

Sarely Related arth Structures, American Society of Civil Engineers, 1983, 23pp. Probability Based Load Criteria: Assessment of Current Design Practice, Theodore V. Galambos, Bruce Ellingwood, James G. MacGregor and C. Allin Cornell, ST May 82, p959-977.

Standing waves Water Waves Propagating on Beaches of Arbitrary Slope, Y. Y. Chen and H. H. Hwung, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p811-822.

State aid

Develping Bus Operating Cost Models: A Methodology, Reggie J. Caudill, Richard A. Kaplan and Anne Taylor-Harris, TE March 83, p273-285. Proposition 13: Imapet on California Public Works, Gary Goldstein, CE Sept. 83, p45-49.

State government
Evaluation of Washington State's Coastal Management Program, Maureen McCrea, (Coastal Zone Orville T. Magoon, et al, eds., 1983), p2858. Is Integrated Environmental Management Feasible?

Neil S. Grigg, El Apr. 83, p71-80.

State taws
Are State Coastal Rights Being Eroded by the Federal
Law of Accretion? Peter H. F. Graber, (Coastal Zone
'83, Orville T. Magoon, et al, eds., 1983), p420-437.
Foreign Corporation Registration, CE July 83, p26.
Mandatory Continuing Education: A Legislative Myth?
Acthyr. T. Nickson. (CE. Eds. 93, 23, 24, 24). Arthur T. Nielsen, CE Feb. 83, p34-36.

State-of-the art reviews

Measurement of Hydrographic Parameters in Large Sand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and

Waterways of the Waterway, Fort, Coasta and Ocean Division, 1983, 81pp.
Timber Bridges: State-of-the-Art, Richard M. Gutkowski and Thomas G. Williamson, ST Sept. 83, p2175-2191.

State-of-the-art reports

Floating Tyre Breakwaters—A Case History, Robert C. McGregor and Colin H. G. Gilbert, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1992-2008.

State-of-the-art reviews

State-of-the-art reviews
Analysis and Design of Safety Appurtenances by Computer Simulation, Hayes E. Ross, Jr., (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p54-71.
Arctic Pipeline River Crossings—Design Trends and Lessons Learned, Wim M. Veldman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p70-83

p70-83.

Biological Fouling of Fine Bubble Diffusers: State-of-Art, William C. Boyle and David T. Redmon, EE Oct. 83, p991-1005.
Buckling of Angles: State of the Art, John B. Kennedy and Murty K. S. Madugula, ST Sept. 82, p1967-1980.

Coastal Protection Devices—A Review, D. N. Foster, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p1857-1872.

Comparing Instream Flow Programs: A Report on Current Status, Berton L. Lamb and Hank Meshorer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p435-445.
Computer Graphics—Where Are We Going? Barry M.

Flachsbart, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p9-14.

Group Action in Offshore Piles, Michael W. O'Neill, (Geotechnical Practice in Offshore Engineering,

Stephen Wright, ed., New York: ASCE, 1983),

Modulus of Subgrade Reaction: New Perspective, John

S. Horvath, GT Dec. 83, p1591-1596.

Pedestrian Safety Through Work Zones: Guidelines, Himmat S. Chadda and Hugh W. McGee, TE Nov. 83, p785-799.

Pile Construction Practices in Arctic Regions: Stateof-the-Art, Dennis Nottingham, Alan B. Christopher-son and John L. Larsen, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p38-58. Pipeline Supported Structures on Driven Piles in

Premafrost: State-of-the-Art, Dennis Nottingham and Alan B. Christopherson, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), 9326-346. Proceedings of Coastal Structures '83, J. Richard Weggel, ed., 1983, 1012pp.
Proceedings of the Conference on the Role of the Civil

Engineer in Highway Safety, Martin E. Lipinski, ed.,

1983, 207pp.
Shaking Table Testing Facilities Around the World, Asadul H. Chowdhury, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p617-620.

Shallow Foundations in Cold Regions: Design, Edward

C. McRoberts, GT Oct. 82, p1338-1349.
State of the Art in Tide Predictions, B. D. Zetler, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p192-202.

State-of-the-art-reviews

Structural Optimization: A State-of-the-Art Report, Ovadia E. Lev, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p90-93.

Static cone penetration tests (field)
Scale Effects of Ultimate Pile Capacity, George G.
Meyerhof, GG June 83, p797-806.

Static loads

Dynamic and Static Design Considerations for Under-Dynamic and Static Design Considerations for Under-ground Chambers, Alfred J. Hendron, Jr. and Gabriel Fernandez, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p157-197. Large Deflection of Curved Beam with Shear Defor-mation, Izhak Sheinman, EM Aug. 82, p636-647. New Subgrade Model Applied to Mat Foundations, John S. Horvath, GT Dec. 83, p1567-1587. Performance of Cable Trusses under Static Loads, Frem Krishna, Vijaya K. Gupta, Ashok K. Ahuja and Ashok K. Mittal, ST Jan. 82, p265-282. West Breakwater-Sines New Aspects of Armor Units.

West Breakwater-Sines New Aspects of Armor Units, R. L. Greeneveld, A. Mol and P. A. J. Zwetsloot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p45-56.

Static pile formula

Effective Stress Capacity Model for Piles in Clay, Leland M. Kraft, Jr., GT Nov. 82, p1387-1404.

Static stress measurement

Static Plate Loading Tests on Overconsolidated Clay, Knut H. Andersen and Per Stenhamar, GT July 82,

Stationary response
Stationary and Transient Response Statistics, Peter H.
Stationary and Transient Response Statistics, Peter H.
Stationary and Transient Response Statistics, Peter H.

Concomitant Strength Relationship for Lumber, Robert J. Tichy, ST Aug. 83, p1854-1868.

Duration of Measurements and Long-Term Wave Statistics, Shen Wang and Bernard Le Mehaute, WW May 83, p236-249.

Ground Snow Loads for Structural Design, Bruce Ellingwood and Robert Redfield, ST Apr. 83, p950-964.

Irregular Wave Overtopping on Gravel Islands, Nobuhisa Kobayashi and Allan M. Reece, WW Nov. 83, p429-444.

Markov Approximation to Transient Vibration, Poly-chronis-T. D. Spanos and George P. Solomos, EM Aug. 83, p1134-1150.

Mixed-Station Extension of Monthly Streamflow Rec-ords, William M. Alley and Alan W. Burns, HY Oct. 83, p1272-1284.

Reliability Analysis of Lifeline Systems, Hideji Kawa-

kami, TC Aug. 83, p117-131.

Revised Rainfall Frequency Analysis for Houston,
Tracey C. Bouvette, Jeff L. Lambert and Philip B. Bedient, HY April 82, p515-528. Sample Size of Pavement Deflections by Nomograph,

Sudipta S. Bandyopadhyay, TE July 83, p599-604. Short-Term Records and Extreme Wind Speeds, Emil Simiu, James J. Filliben and James R. Shaver, ST Nov. 82, p2571-2577.

Simulation and Analysis of Construction Operations, Boyd C. Paulson, Jr., Sarah A. Douglas, Anthony Kalk, Ali Touran and Graeme A. Victor, TC Aug. 83, p89-104.

Statistical Study on Compression Butt-Welded Plate, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, p386-403

Statistical Study on Imperfections of Steel Webs, Sadao Komatsu, Yoshiji Niwa and Eiichi Watanabe, ST

Feb. 83, p419-438.

Stochastic Response of Yielding Multistory Structures,
Loren D. Lutes and Tysh Shang Jan, EM Dec. 83, p1403-1418.

Stochastic Response of Yielding Multi-Story Structures, Loren D. Lutes and Tysh Shang Jan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p879-882.

Tennessee Valley Extreme Wind Speed Climatology, Donald W. Newton, M. Lawrence Nicodemus and Nathaniel B. Guttman, HY Aug. 83, p1093-1107. Uncertainty in Bearing Capacity of Sands, Thomas S. Ingra and Gregory B. Baecher, GT July 83, 8899-914. Variance of Vehicle Change Intervals, Martin G.

Buehler, TE Nov. 83, p871-875. Variation within Measured and Estimated Consumptive

Use Requirements, Richard G. Allen and James L. Wright, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p1-12.

Statistical distribution

Interrelationships of Irrigation Uniformity Terms, A. W. Warrick, IR Sept. 83, p317-332.

Number of Tests versus Design Pile Capacity, Leslie G.

Jaeger and Baidar Bakht, GG June 83, p821-831. The Principle of Maximum Entropy for Parameter Estimation of Statistical Distributions, E. S. Oyegoke, J. O. Sonuga and G. A. Akpoji, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p899-902.

Sample Size of Pavement Deflections by Nomograph, Sudipta S. Bandyopadhyay, TE July 83, p599-604.

Statistical models

Comparison of Basin Performance Modeling Technique, Gary F. Goforth, James P. Heaney and Wayne

C. Huber, EE Oct. 83, p1082-1098.
Mechanical Reliability and Plant Performance, Lewis A. Rossman, (National Conference on Environmental Engineering, Allen Medine, et al., eds., 1983), p561-

Vadose Zone Permeability Tests: Steady State Results, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p640-659.

Steady state

Steady-State and Transient Responses of Linear Structures, Anestis S. Veletsos and Ashok Kumar, EM Oct. 83, p1215-1230.

Steady-State and Transient Responses of Linear Structures, A. S. Veletsos and Ashok Kumar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p212-213.

Steady state models

Leaching Requirements for Managing Salinity, Glenn J. Hoffman, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p409-416.

Steady state res

Scattering of SH Waves by Subsurface Topography, Marijan Dravinski, EM Feb. 82, p1-17.

Steam electric power generation Recirculation Study for Alternative Once-Through Power Plant Cooling Systems, Daniel T. Chan and Fred H. Wend, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1586-1599.

Steam shovels

Dirt and Steam, W. R. Carter, CE Nov. 83, p51-54.

Design of Vertical Chords in Deepwater Platform, Shouji Toma and Wai F. Chen, ST Nov. 83, p2733-2746.

Steel bear

Beams with Torsional Stiffeners, Richard M. Szewczak, Erling A. Smith and John T. DeWolf, ST July 83, p1635-1647.

Cyclic Behavior and Design of Link Beams, Keith D. Hjelmstad and Egor P. Popov, ST Oct. 83, p2387-2403.

Post-Buckling Instability of Steel Beam-Columns, Masayoshi Nakashima, Takeshi Nakamura and Minoru Wakabayashi, ST June 83, p1414-1430.

Toward Fatigue-Proofing Cover Plate Ends, Pedro Albrecht, Fatteh Wattar and Adnan Sahli, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p24-44.

Steel columns

Behavior of Steel Columns: A Comprehensive Treat-ment, Reidar Bjorhovde and Wai-Fah Chen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p85-102.

End Restraint Effect on Steel Column Strength, Zia

Razzaq, ST Feb. 83, p314-334

Inelastic Stability of Directionally and Rotationally Restrained Imperfect Steel Columns, Sriramulu Vinnakota, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1130-1133.

Optimum Design of Welded Steel Columns, Metwally Abo-Hamd, ST Nov. 83, p2503-2510.

Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus,

ed., 1983, 218pp.

Tests on Tubular Columns with Variable End Restraint, David A. Ross, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1134-1137.

Steel construction

'Instant Jail' Reduces On-Site Construction, CE July 83, p16.

Steel fram

Coupled Moment-Axial Force Behavior in Bolted Joints, M. W. Wales and E. C. Rossow, ST May 83, p1250-1266.

Inelastic Earthquake Response of Steel Structures, Alvar M. Kabe and Dixon Rea, ST March 83, p705-720.

Nonlinear Finite Element Analysis of Steel Frames Mohamed H. El-Zanaty and David W. Murray, ST

Feb. 83, p353-368. Numerical Analysis of Structural Tee X-Bracing, Albert ceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p490-500.

Plastic Shear Hinges in Steel Frames, Daniel N. Manheim and Egor P. Popov, ST Oct. 83, p2404-

Progressive Collapse Resistant Design, John L. Gross and William McGuire, ST Jan. 83, pl-15. Reliability Based Design for Space Steel Frames, Yin-Yu Chen and Deh-Shiu Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p847-850.

Seismic Response of Friction Damped Braced Frames, Pall and Cedric Marsh, ST June 82, p1313-1323.

Seismic Safety: 10-Story UBC Designed Steel Building, Shih-Sheng Paul Lai, EM Apr. 83, p557-575.

Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677. Structural Evaluation of Marine Structures, Jerry J.

Steel pipe piles

Axial Capacity of Steel Pipe Piles in Clay, Norman D.

Dennis and Roy E. Olson, (Geotechnical Practice in

Offshore Engineering, Stephen Wright, ed., New

York: ASCE, 1983), p370-388.

Axial Capacity of Steel Pipe Piles in Sand, Norman D.

Dennis and Roy E. Olson, (Geotechnical Practice in

Offichase Engineering, Stephen Wright, ed., New

Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p389-402. Driven Piles in a Granular Calcareous Deposit, Javier Gomez Puyuelo, Javier Sastre and Antonio Soriano, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p440-456.

Steel pipes
Metropolitan Water District San Diego Pipeline 5, Gary
William P. Lundy, (Pipelines in M. Snyder and William P. Lundy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p25-33.

Soil-Pipe Interaction and Pipeline Design, Syed Ahmed, Ralph W. McMickle and Carl L. Brassow, TE Jan.

81, p45-58.
Steel Pipeline Provides New Water Supply for Jordan, Robert L. Thoem, Charles L. Meyer and Mark C Boner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p279-290.

Statistical Study on Steel Plate Members, Sadao Komatsu and Satoshi Nara, ST Apr. 83, p977-992.

Analytical and Experimental Structural Response, Kenneth M. S. Mark and Frank H. Brittain, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p585-588.

An Evaluation of the AASHTO Fracture Control Plan, Stanley T. Rolfe and A. P. Bezzone, (Proceedings of

the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), pl93-213. Fatigue Damage Assessment of Welded Structures, Mark D. Bowman and James T. P. Yao, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p45-69. FEABOC: Finite Element Analysis of Bolt Connec-

tion, Natarajan Krishnamurthy, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p312-325.

Hyatt-Regency Walkway Collapse: Design Alternatives, George F. W. Hauck, ST May 83, p1226-1234.

Inelastic Buckling Using the Finite Strip Method, N. S. Mahmoud, D. A. Nethercot and R. J. Plank, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1101-1104. Inelastic Building Analysis Based on INRESB-3D-II,

Franklin Y. Cheng and James A. Volker, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p501-514. Interactive Specification of Partial Warping Restraint, Yeong-Bin Yang and William McGuire, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p118-121.

Lateral Load Effect on Strength of Steel Arch Bridge Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449. Probabilistic Evaluation of Welded Structures,

Achintya Haldar, ST Sept. 82, p1943-1955.
Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus,

ed., 1983, 218pp. Reliability of Nonlinear Framed Structures, Tai-Yan Kam, Rose B. Corotis and Edwin C. Rossow, ST July

83, p1585-1601. Steel Struts under Severe Cyclic Loadings, Egor P. Popov and Gary R. Black, ST Sept. 81, p1857-1881. Structural Steel Failure, E. Chesson, (Proceedings of the

W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p156-173. Structures Congress 82, CE Feb. 83, p56-59.

Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-

Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83,

p1918-1932.

Ultimate Strength Formula for Steel Arches, Tatsuro Sakimoto and Sadao Komatsu, ST March 83, p613-627.

Stiffeners

Beams with Torsional Stiffeners, Richard M. Szewczak, Erling A. Smith and John T. DeWolf, ST July 83, p1635-1647.

Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-

Inelastic Buckling of Short Plate Stiffeners in Beam-Column Connections, H. A. El-Ghazaly and A. N. Sherbourne, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al, eds., 1983), p1095-1100. Statistical Study on Imperfections of Steel Webs, Sadao Komatsu, Yoshiji Niwa and Eiichi Watanabe, ST

Feb. 83, p419-438. Stiffener Effects on Torsional Buckling of Columns Sven Eilif Svensson and Carsten Munk Plum, ST March 83, p758-772.

Stiffening
Shear/Membrane Locking in Curved Finite Elements,
Henryk Stolarski and Ted Belytschko, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p830-833. Tension Stiffening and Compression Softening in

Concrete, Linda Leibengood, David Darwin and Robert H. Dodds, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1043-1046.

Analysis of Complex Shear Wall Structures, B. Taranath, M. B. Kanchi, B. Kadaikal and M. Vasseghi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p622-632.

Dynamic Stiffness of Embedded Foundations, H. T. Chen, J. M. Roesset and J. L. Tassoulas, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p178-181.

Elastic Analysis of Laterally Loaded Frames, Donald J. Fraser, ST June 83, p1479-1489.
Gravity Stiffness of Classical Suspension Bridges, Alan

Jennings, ST Jan. 83, p16-36.

Jennings, ST Jan. 83, p16-36.
Large Deformation Analysis of Elastic-Plastic Frames,
Aslam Kassimali, ST Aug. 83, p1869-1886.
Secondary Warping of Thin-Walled Beams, Toma
Leko, EM Apr. 83, p639-642.
Stiffness Constants of Single Piles, Milos Novak and
Bahaa El Sharnouby, GT July 83, p961-974.
Stiffness Control Using High Frequency Excitations,
Michail Zak, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice. chanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al, eds., 1983), p331-334.

Stiffness matrix

Finite Element Solutions of Deep Beams, Mohammed M. Ettouney and Walter Schmidt, ST July 83, p1569-1584.

Inelastic Tangential Stiffness for 2-D Frames, Tai-Yan

Kam, Edwin C. Rossow and Ross B. Corotis, ST Nov. 83, p2685-2697.

Internal Force Distribution Effect on Framework Stability, George D. Manolis and Dimitrios E.

Beskos, ST Jan. 83, p250-257. Shear Effect in Beam Stiffness Matrix, Gelu Onu, ST

Sept. 83, p2216-2221.

Stiffness Matrices for Non-Prismatic Members, Noel J. Everard, Ronald D. Matthys and James E. Leininger, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p379-389.

Stiffness methods

Approximate Stiffness Method for Dynamic Analysis, Ali A. K. Haris and Shatha Naman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p233-241.

Finite Segment Method for Biaxially Loaded RC Columns, Soliman I. Al-Noury and Wai F. Chen, ST April 82, p780-799.

Stilling basins

Internal Flow in Hydraulic Jumps, John A. McCorquo-dale and Abdelkawi Khalifa, HY May 83, p684-701.

Stochastic models

Investigation of Daily Flow Forecasting Models, Hasan Yazicigil, A. Ramachandra Rao and G. H. Toebes, WR March 82, p67-85.

Probabilistic Load Duration Model for Live Loads, Ross B. Corotis and Wen-Yang Tsay, ST Apr. 83,

p859-874.

Regional Monthly Rainfall-Runoff Model, M. Mimikou and A. Ramachandra Rao, WR Jan. 83, p75-93. Statistical Properties of Sediment Movement, Hin-Fatt Cheong and Hsieh-Wen Shen, HY Dec. 83, p1577-1588.

Stochastic processes

Dynamic Analysis of Light Equipment in Structures: Modal Properties of the Combined System, Jerome L. Nour-Omid, EM Feb. 83, p73-89.

Dynamic Analysis of Light Equipment in Structures:

Response to Stochastic Input, Armen Der Kiureghian, Jerome L. Sackman and Bahram Nour-Omid, EM Feb. 83, p90-110.

The Effect of Correlation on the Prediction of Extreme Values, Arvid Naess, (Recent Advances in Engineering

Values, Arvid Naess, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p545-548. Equivalent Linearization for Continuous Systems, C. M. Krousgrill, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p271-274. Parametric Spectral Analysis, A. Ramachandra Rao and Ali Durgunoglu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p891-894. Stationary and Transient Response Envelopes, Steet Krenk, Henrik O. Madsen and Peter H. Madsen. EM

Krenk, Henrik O. Madsen and Peter H. Madsen, EM Feb. 83, p263-278.

Stationary and Transient Response Statistics, Peter H. Madsen and Steen Krenk, EM Aug. 82, p622-635. Stochastic Finite Element Analysis of Simple Beams, Erik Vanmarcke and Mircea Grigoriu, EM Oct. 83, p1203-1214.

Stochastic Response of Prototype Offshore Structure, Michael G. Grecco and Robert T. Hudspeth, ST May

83, p1119-1338.

Stochastic Response of Yielding Multistory Structures, Loren D. Lutes and Tysh Shang Jan, EM Dec. 83, p1403-1418.

Stochastic Response of Yielding Multi-Story Structures, Loren D. Lutes and Tysh Shang Jan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p879-882.

Transient Load Modeling: Clipped Normal Processes Ove Ditlevsen and Henrik O. Madsen, EM Apr. 83,

p494-515. Stoichiometry Air Pollution Cleaning Wastes: Dry vs. Wet, Richard W. Goodwin, EY Sept. 83, p131-141.

Stokes Flow in Rough Channels, Nhan Phan-Thien and J. D. Atkinson, EM June 83, p756-764.

Validity of Stokes-Flow Theory for a Falling Disk, Robert Y. Lai and Yun-Ting Soo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1158-1161.

Storage talks

Computational Aspects of Dynamic Stability of Elastoplastic Shells, Lothar Haefner and Kaspar J. William, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p376-379.

Storage tank foundations

Criteria for Settlement of Tanks, W. Allen Marr, Jose A. Ramos and T. William Lambe, GT Aug. 82, p1017-1039.

Storage tanks

Analytical Evaluation of Axisymmetrical Dynamic Characteristics of Cylindrical Tanks, Medhat A. Characteristics of Cylindrical Fains, Mediat A. Haroun and Magdy A. Tayel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p283-286.

ehavior of Unanchored Oil Storage Tanks: Imperial

Valley Earthquake, Medhat A. Haroun, TC Apr. 83,

Criteria for Settlement of Tanks, W. Allen Marr, Jose Ramos and T. William Lambe, GT Aug. 82, p1017-1039.

Nonlinear Analysis of Liquid Filled Tank, Wing Kam Liu and Dennis Lam, EM Dec. 83, p1343-1357. Seismic Response of Submerged Oil Storage Tank, Chi C. Tung, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p299-302.
Tests of Small Scale Liquid Storage Tanks, Barry J. S.
Liu, Robert H. Kirchhoff and William A. Nash, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p573-576.

Storm drainag

Revised Rainfall Frequency Analysis for Houston, Tracey C. Bouvette, Jeff L. Lambert and Philip B. Bedient, HY April 82, p515-528.

Synthetic Hyetographs for Storm Drainage Design, Bruce M. McEnroe, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p607.

Storm drains

Protection of Pipelines Subject to Surcharge Loads, Eugene M. Kovach, TE Nov. 82, p540-549.

Storm runoff

Analysis of Flooding in the 12 Towns Sewer System, Bruce E. Holbrook and Philip B. McCallister, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p566-571.

Basin Recharge of Playa Water, A. D. Schneider and O. R. Jones, IR Sept. 83, p309-316.

A Data-Based Evaluation of the Curve Number Method, Robert J. Montgomery and Paul E. Clopper,

Method, Robert J. Montgomery and Paul E. Clopper, (Advances in Irrigation and Drainage, John Borrellt, ed., 1983), p290-297.

Modeling Stormwater Storage/Treatment Transients: Theory, Miguel A. Medina, Jr., Wayne C. Huber and James P. Heaney, EE Aug. 81, p781-797.

Total Suspended Solids in Highway Runoff in Washington State, Randy Asplund, Brian W. Mar and John F. Ferguson, EE April 82, p391-404.

Modeling Stormwater Storage/Treatment Transients:

Theory, Miguel A. Medina, Jr., Wayne C. Huber and James P. Heaney, EE Aug. 81, p781-797. Sewer Network Routing by Dynamic Wave Characteristics, A. Suha Sevuk and Ben Chie Yen, HY March 82, p379-398.

Design of Dunes as Coastal Protection in the Delta Area of the Netherlands, Ir. C. Visser, (Coastal Structures '83, J. R. Weggel, ed., 1983), p792-805. Examples of Storm Surge Prediction Models, P. Lencioni, J. P. Benque and Y. Coeffe, (Proceedings of

Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p823-831.

Frequency of Northeaster Tides in Coastal New York, Stergios A. Dendrou, Charles I. Moore and Vance A. Myers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p182-187.

Irregular-Grid Finite-Difference Simulation of Lake

Geneva Surge, Sebastian W. Bauer and Klaus D. Schmidt, HY Oct. 83, p1285-1297.

Schmidt, HY Oct. 83, p1285-1297. Methodology for Calculating Wave Heights Associated with Storm Surges Utilized by the National Flood Insurance Program, William G. Fry and Perry E. Rhodes, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1991-2004. NFIP—Individual Risk Rating for Coastal Areas, Francis V. Reilly, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2631-2649. Predictive Computational for Beach and Dune Erosion During Storm Surges Pier Vallence (Coastal Computational Co

During Storm Surges, Pier Vellinga, (Coastal Struc-tures '83, J. R. Weggel, ed., 1983), p806-819.

A Process-Response Model for Hurricane Washovers,

A Process-Response Model for Hurricane Washovers, John R. Suter, Dag Nummedal, Amy K. Maynard and Paul Kemp, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1459-1478. River Hull Tidal Surge Barrier Design and Operation, Paul Parkin and John H. Fleming, (Coastal Structures 33, J. R. Weggel, ed., 1983), p562-872. Shoreline Changes Due to Various Sea-Level Rise Scenarios, Timothy W. Kana, Jacqueline Michel, Miles O. Hayes and John R. Jensen, (Coastal Zone 23 Orville T. Magoon et al. eds. 1983), p2788-2776.

"33, Orville T. Magoon, et al, eds., 1983), p.2768-2776.
Storm Surge Modeling in Coastal Flood Plain Management, Y. J. Tsai, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p.2005-2019.

Wave Run-Up Caused by Natural Storm Surge Waves, Joachim Grune, (Proceedings of Coastal Engineering 82. Vol. I, Billy L. Edge, ed., 1983), p785-803.

Storm water

Stormwater Pollution Control: Best Management Practices, E. John Finnemore, EE Oct. 82, p835-851. Stormwater Pollution Control: Structural Measures, E. John Finnemore, EE Aug. 82, p706-721.

The Principle of Maximum Entropy for Parameter Estimation of Statistical Distributions, E. S. Oyegoke, J. O. Sonuga and G. A. Akpoji, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p899-902.

Pollutant Loading Model for Highway Runoff, Tai Wik Chui, Brian W. Mar and Richard R. Horner, EE Dec. 82, p1193-1210.

Stormwater Quality Characteristics in Detention Basins, Raymond A. Ferrara and Patrick Witkowski, EE Apr. 83, p428-447.

Stormwater management
Artificial Dune Serves Protection Purpose, CE Aug. 83,

Automatic Control Strategies for Combined Sewer Systems, Markos Papageorgiou, EE Dec. 83, p1385-

Comparison of Basin Performance Modeling Technique, Gary F. Goforth, James P. Heaney and Wayne C. Huber, EE Oct. 83, p1082-1098.

Effective Impervious Area in Urban Runoff Modeling, William M. Alley and Jack E. Veenhuis, HY Feb. 83,

p313-319.

p313-319.
The EPA SWMM Model: Documentation and Maintenance, Wayne C. Huber, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p312-317.
Nonlinear Runoff Modeling: Parameter Identification, Gilles G. Patry and Miguel A. Marino, HY June 83, p865-880.

Proceedings of the Conference on Stormwater Deten-

Proceedings of the Conference on Stormwatch Determining Facilities, William DeGroot, ed., 1982, 431pp. Solving Ill-Structured Sociotechnical Problems, Richard H. McCuen, El Apr. 83, pp.13-126. Storm Water Retention Facilities, Francis Toldy, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

(Fronters in reparating leadings), policy and policy and policy and policy and Level of Discretization, Nabil A. Zaghloul, HY Nov. 81, p1535-1545.
Water Quality and Institutional Considerations of Stormwater Detention Ponds in Estuarine Envis ronments, Jonathan E. Jones, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1950-1981.

Finite Element Model to Determine K, Kuo-Kuang Hu, Chen-Ming J. Huang and Stuart E. Swartz, EM Aug. 83, p1103-1113.

Strain energy

Mechanical Performance Model for Roofing Mem-branes, James M. Pommersheim, Robert G. Mathey and James R. Clifton, ST June 83, p1431-1449.

Properties of Concrete Subjected to Impact, Wimal Suaris and Surendra P. Shah, ST July 83, p1727-1741.

A Strain-Rate Dependent Damage Model for Concrete, W. Suaris and S. P. Shah, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p977-980.

Stratification

The Decay of Turbulence in a Stratified Fluid, Robert The Decay of Turbulence in a Stratified Fluid, Robert R. Long, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1216-1219. Diffusivity-Based Flux of Phosphorus in Onondaga Lake, Martin C. Wodka, Steven W. Effler, Charles T.

Driscoll, Stephen D. Field and Steven P. Devan, EE Dec. 83, p1403-1415.

Entrainment in a Thermohaline Double-Diffusive System, J. Atkinson and D. R. F. Harleman, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p8-14.
Modeling the Annual Stratification Cycle in Lakes: The 1979-80 Lake Erie Field Program as an Example, John F. Paul, Juan C. Heinrich and Wilbert J. Lick, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p27.
Onodaga Lake and Dissolved Oxygen in Seneca River,
Steven W. Effler, Peter Jaran and Charles F. Carter,

EE Aug. 83, p945-951.

Approximate Numerical Model for Stratified Flow, Angelos N. Findikakis and Robert L. Street, EM Aug. 83, p950-969.

Heat Extraction from Salt-Gradient Solar Pond, Koichi Kinose, EY Sept. 83, p152-164. Internal Structure and Turbulent Entrainment Char-

acteristics of the Saline Wedge, Frank E. Sargent and Gerhard H. Jirka, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p7. Mixing in a Stratified Recirculating Flow, J. R. Koseff,

H. Rhee and R. L. Street, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p1-6.
On Prediction of Characteristics for Vertical Plane

Buoyant Jets in Stably Linear Stratified Environ-ment, Wei Li and Ching Jen Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1279-1282.

Sediment Transport in Stratified Turbulent Flow, Bruce A. DeVantier and Bruce E. Larock, HY Dec. 83,

p1622-1635.

Turbulent Underflow in a Short Channel of Limited Depth, Raouf E. Baddour and Harry Abbink, HY May 83, p722-740.

Vertical Circulation in Density-Stratified Reservoir, Zygmunt Meyer, HY July 82, p853-873. Vertical Mixing in Models of Stratified Flow, Steve C.

McCutcheon, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p15-20.

Stratigraphy

The Geology and Soil Properties of a Project in S.E. Alaska, Jack A. Caldwell and Allan S. E. Moss, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p57-81. Geology and Soil Properties of Winnipeg, Andrew

Baracos, James Graham, Bruce H. Kjartanson and Donald H. Shields, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p39-56.

Assessing the Short-Term Reduction in Streamflow pH Associated with Acid Precipitation, W. J. Gburek and H. B. Pionke, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p455-465.

Data Automation for Water Supply Management, Robert J. Sutter, Ronald D. Carlson and Dan Lute, WR July 83, p237-252.

Longitudinal Dispersion in Natural Streams, Tom Beer and Peter C. Young, EE Oct. 83, p1049-1067.

Measurement of Hydrographic Parameters in Large Measurement of rydrographic Parameters in Large Sand-Bed Streams from Boats, Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, 1983, 81pp.
Practical Method of Estimating Peak Flow, Beni P.

Sangal, HY Apr. 83, p549-563.

Stream gaging
Analysis of the USGS Stream-Gaging Program, M. E. Moss and W. O. Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p520-527.

Stream improvement

Design of Habitat Structures for Open Channels, Fletcher Douglas Shields, Jr., WR Oct. 83, p331-344.

Stream pollution

Hydrologic Delineation of Nonpoint Source Contributing Areas, William J. Gburek, EE Oct. 83, p1035-1048.

Pollution Routing in Streams, Antonis D. Koussis, Melio A Saenz and Ioannis G. Tollis, HY Dec. 83, p1636-1651.

Streambed armorin

Development and Prediction of Bed Armoring, Hseih W. Shen and Jau-Yau Lu, HY Apr. 83, p611-629. River-Bed Degradation Due to Sediment Diminution,

Inbo Park and Subhash C. Jain, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications.

Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.

Routing Graded Sediments in Streams: Formulations, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503.

Routing Graded Sediments in Streams: Applications, Deva K. Borah, Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517.

Impingement of Water Jets on Nonuniform Stream Bed, Walter C. Mih and Jobaid Kabir, HY Apr. 83, p536-548

Streamflow forecasting

Assessing Waterlogging Controls II: Impact Forecasts, R. A. Young, H. J. Morel-Seytoux and A. R. Simpson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p134-140.

Streamflow records

Mixed-Station Extension of Monthly Streamflow Records, William M. Alley and Alan W. Burns, HY Oct. 83, p1272-1284.

Gas-Film Coefficients for Streams, Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 83, p1111-1127.

Longitudinal Dispersion in Natural Streams, Tom Beer and Peter C. Young, EE Oct. 83, p1049-1067.

Organic Carbon Decay in Stream with Biofilm Kinetics. S. Srinanthakumar and A. Amirtharajah, EE Feb. 83,

Simulation of Metal Transport in Streams, B. M. Chapman and D. R. Jones, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p635-642.

Water Quality Modeling of Shallow Surface Active Streams—A Case Study, Arun K. Deb, Jerry Klafter-Snyder, William G. Richards and Roy F. Weston, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p486-492.

Street maintenance

The Transportation Utility, Thomas E. Hays, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p64-71.

Additional Through Lanes at Signalized Intersections, David L. Guell, TE July 83, p499-505.

Strength

Bayesian Approach to Prototype Testing, P. Hauge Madsen and Niels C. Lind, ST April 82, p753-770. Number of Tests versus Design Pile Capacity, Leslie G.

Number of 1ests versus Design Pile Capacity, Leslie G. Jaeger and Baidar Bakht, GG June 83, 9821-831. On Micromechanics of Strength Degradation in Metals, S. Nema-Nasser, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p642-643. Strength Model for Wood Structural Members, Steven

Cramer and James R. Goodman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p737-749.

Finite Element Model to Determine K, Kuo-Kuang Hu, Chen-Ming J. Huang and Stuart E. Swartz, EM Aug. 83, p1103-1113.

On Micromechanics of Strength Degradation in Metals, S. Nemat-Nasser, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p642-643.

A Linearized Yield Surface for Tension-Weak Materials, Frank E. Weisgerber, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p964-967.

Stress analysis

Adaptivity in P-Version Finite Element Analysis, Prodyot K. Basu and Alberto Peano, ST Oct. 83, p2310-2324.

Membrane Theory for Layered Ellipsoidal Shells, Daryl L. Logan and Moujalli Hourani, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p774-777.

On the Goals of Computation in Stress Analysis, Barna A. Szabo, (Recent Advances in Engineering Mechanics

and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p818-820. Quarter Plane Problems for Fibre Reinforced Elastic Plates, A. P. S. Selvadurai and N. Moutafis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p759-762.

Stress Analysis of Buried Pipelines, Joseph W. Cardinal ouess Analysis of Burned Pipelines, Joseph W. Cardinal and O. Hal Burnside, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p697-710.

Stress Analysis of Dummy Rod Method for Sand Specimens, Han-Chin Wu and G. S. Chang, GT Sept. 82, p1192-1197.

Stress and Fracture Analysis of Underground Open ings, T. Y. Chang, X. L. Zhang, S. P. Yang and G. Z. Gu, (Recent Advances in Engineering Mechanics and Oil, (Recent Advances in Engineering Practice, W. F. Chen, et al, eds., 1983), p696-701. Stress and Seepage Analysis of Earth Dams, G. C. Li and C. S. Desai, GT July 83, p946-960.

Three-Dimensional Stress Analysis of Dams Founded

on Faulted Rocks, D. K. Sehgal, R. Natarajan and S. M. A. Kazimi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p37-49.

Transient Stress Analysis of High Energy Gas Fracture Experiments, E. P. Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p415-418.

Transversely Isotropic Medium with Lined Hole, K. Chandrashekhara and P. Gopalakrishnan, EM Apr.

Stress concentration Intensity of Corner and Stress Concentration Factor, Norio Hasebe and Jiro Iida, EM Feb. 83, p346-356.

On the Derivation of Harmonic and Neutral Holes, Gordon S. Biorkman, Jr. and Rowland Richards, Jr., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p463-466.

Some Aspects of Adaptive Finite Element Modelling,

A. D. Miller, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p809.

Stress distribution

Buckling of Four Equal-Leg Angle Cruciform Columns, Erling A. Smith, ST Feb. 83, p439-450. Predicted and Measured Resilient Response of Track, Harry E. Stewart and Ernest T. Selig, GT Nov. 82, p1423-1442.

Stress Distributions in Higher Strength Concrete Beams, A. Nikaeen and S. E. Swartz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p549-552.

Wall Stress Distribution Due to Jet Impingement, Mohan D. Deshpande and Ramesh N. Vaishnav, EM Apr. 83, p479-493.

Stress history

Singular History Integral for Creep Rate of Concrete, Zdenek P. Bazant, Tatsuya Tsubaki and Zekai Celep, EM June 83, p866-884.

A Reynolds Stress Measurement Technique for Complex Flows, F. B. Gessner and S. H. Arterberry, (Recent Advances in Engineering Mechanics and Their

(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1303-1306. Stress Intensity Extrapolation Techniques, William Calvin Carpenter, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p393-394.

Stress strain characteristics

Finite Element Analysis for Fracture Toughness Testing, Michael P. Cleary and Brian L. Miller, EM June 83, p741-755.

Stress strain relations
Geometrical Non-Linear Bending of Plates and Shells with Consideration of Loading History, Boris Krayterman and Gajanan M. Sabnis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p714-717.

Monotonic and Cyclic Constitutive Law for Concrete,

Monotonic and Cyclic Constitutive Law for Conference, Michael N. Fardis, Bunu Alibe and John L. Tassoulas, EM Apr. 83, p516-536.

Simple Plasticity Model of Two-Surface Type, T. S. Tseng and G. C. Lee, EM June 83, p795-810.

A Stress-Strain Analysis of Rubber and Steel Compos-

ite Bearings, Joel K. Moore and Leonard R Herrmann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p734-737.

Three-Dimensional Testing and Modeling of Ballast, R.

Janardhanam and C. S. Desai, GG June 83, p783-

Stress strain relations, soils
Cavity Expansion in a Dilatant Geological Material, A.
P. S. Selvadurai, (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p447-450. Elasto-Plastic Material Models, R. Janardhanam and C.

S. Desai, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p746-750. Endochronic Modeling for Shear Hysteresis of Sand, Han-Chin Wu and Jiun-Chyuan Sheu, GT Dec. 83,

p1539-1550

Hysteretic Endochronic Theory for Sand, Zdenek P. Bazant, Raymond J. Krizek and Chin-Long Shieh,

Bazant, Raymond J. Krizek and Chin-Long Shien, EM Aug. 83, p1073-1095. Modulus of Subgrade Reaction: New Perspective, John S. Horvath, GT Dec. 83, p1591-1596. Obtaining Moduli from Cyclic Pressuremeter Tests, Jean-Louis Briand, Robert L. Lytton and Jung-Tsann Hung, GT May 83, p657-665. Three-Dimensional Behavior of Sand with Anistropic

Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct. 83, p1313-1328.

2-D Finite Element Analysis of Massive RC Structures,

2-D Finite Element Analysis of Massive RC Structures, Niels Saabye Ottosen, ST Aug. 82, p1874-1893. Robust Penalty Method for Structural Synthesis, Manohar P. Kamat, EM Aug. 83, p1023-1041. Simplified Analysis of Bundled-Type Structures, Alexander Coull, Bishwanath Bose and Abdulla K. Ahmed, ST May 82, p1140-1153.Single-Span Deep Beams, J. E. Barry and Heino Ainso, ST March 83, p646-663.Strength of Double-Row Bolted Web Connections, James M. Ricles and Joseph A. Yura, ST Jan. 83, p126-142.

p126-142.

Stresses Due to Wave-Induced Bottom Pressures, Leland M. Kraft, Jr. and Steven C. Helfrich, GT July 83, p986-994.

Temperature Stresses in Composite Box Girder Bridges, Walter H. Dilger, Amin Ghali, Mathew Chan, Mo S. Cheung and Marc A. Maes, ST June 83, p1460-1478. Time-Dependent Analysis of PC Cable-Stayed Bridges, M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83,

p1980-1996.

Stress-strain curves Complete Triaxial Stress-Strain Curves for Concrete, Shuaib H. Ahmad and Surendra P. Shah, ST April

Structural analysis

Adaptivity in P-Version Finite Element Analysis, Prodyot K. Basu and Alberto Peano, ST Oct. 83,

p2310-2324.

Adoption of a Mainframe Code to Desk-Top Computers, James R. Stafford and Farhad Tabaddor, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p278-286.

Analysis of Partially Erected Structures, John L. Gross and Degan G. Hambacher, (Proceedings of the Eighth Conference on Electronic Computation,/n James K.

Nelson, Jr., ed., 1983), p298-311.

Computer Graphic Boundary Element Analysis, Renato Perucchio and Anthony R. Ingraffea, (Pro-ceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p422-435.

Conference Looks at the Future of Computer-Structural

Continuum Modelling of Discrete Structures, Norris Stubbs and Harold Fluss, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p475-478.

Drilled-Shaft Integrity by Wave Propagation Method, Thomas M. Hearne, Jr., Kenneth H. Stokoe, II and Lyndon C. Reese, GT Oct. 81, p1327-1344.

Lyndon C. Reese, G1 Oct. 81, p132/-1344.
Dynamic Graphic Devices and Structural Analysis,
Dan VanLuchene, (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al., eds., 1983), p126-129.
An Energy Method for Nonlinear Struct. Analysis,
Rudolph Szilard, (Proceedings of the Eighth Confer-

ence on Electronic Computation, James K. Nelson, Jr.,

ed., 1983), p390-403.

Exact Buckling and Frequency Calculations Surveyed,
Frederic W. Williams and William H. Wittrick, ST Jan. 83, p169-187.

The Finite Element Elastic Beam-Column, Joao A. Teixeira de Freitas and David Lloyd Smith, EM Oct. 83, p1247-1269.

Finite Element Method for Interface Problems, Santosh Arva and Gilbert A. Hegemier, ST Feb. 82. p327-342.

Frame Program, Milo S. Ketchum, CE Dec. 83, p61-63. A Microcomputer System for Automated Spectral Analyses of Structural Dynamics, Y. C. Pao, P. W. Whaley, L. C. Chang and G. M. Smith, (Proceedings of the Eighth Conference on Electronic Computation,

of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p711-724. Octagonal Framed Tube Office Building: A Case History, James S. Notch, ST Dec. 83, p2872-2892. Optimum Design of Building Systems, Kevin Z. Truman and Franklin Y. Cheng, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), eds. 101

p98-101. A Practical Probabilistic Model, Achintya Haldar and Bilal M. Ayyub, (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p948-951. Practical Reduction of Structural Eigenproblems,

Mario Paz, ST Nov. 83, p2591-2599.
Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983, 784pp. Progressive Collapse Resistant Design, John L. Gross and William McGuire, ST Jan. 83, p1-15.

A Rapid Method of Computing Geometric Relations in Structural Analysis, CE June 83, p51-53.

Seismic Safety: 10-Story UBC Designed Steel Building, Shih-Sheng Paul Lai, EM Apr. 83, p557-575. Shape Modification Using Sensitivity Information, Theodore J. Weidner and Marks Shephard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983),

p144-154 Ultimate Torque of R/C Beams with Large Openings

Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.
Use of Global and Local Analysis Methods in the Structural Design of De Long Piers, Francois Brucker and Daniel Finifter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p152-162.

Structural behavior

Shearing Stress in Plastic Bending of Wood Beam, Borislav D. Zakic, ST Apr. 83, p1042-1060.

Structural control

Control of Structures Subjected to Seismic Excitation, Leonard Meirovitch and Lawrence M. Silverberg,

EM Apr. 83, p604-618.

Control of Tall Buildings in Along-Wind Motion, J. N. Yang and B. Samali, ST Jan. 83, p50-68.

Structural design

An Approximate Dynamic Analysis of Tall Buildings, P. C. Chang and D. A. Foutch, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p365-378.

Approximate Method for Lateral Load Analysis of High Rise Buildings, Fernand K. E. C. Mortelmans, Guido P. M. J. De Roeck and Dionys A. Van

Gemert, ST Aug. 81, p1589-1610.

Breakwater Design and the Integration of Practical Construction Techniques, Jan H. van Oorschot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p108-121.

Bridge Structural Innovation: Firsthand Report, Jack-

Bridge Structural Innovation: Firstnand Report, Jackson Durkee, El July 82, p190-201.

Building Block Technique for Structural Design Software, Ergin Citipitoglu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p572-579.

Building Trends: The View from Houston, Gene

Dallaire, CE July 83, p33-38.

Design for Ice Forces, Stan R. Caldwell, ed. and Randy D. Crissman, 1983, 218pp. Expansion of Natchez-Adams County Port, C. Carter Brown, C. Dale Buckner and Charles Costner, (Proceedings of Ports 83, Kong Wong, ed., 1983), 272, 238

The Fabricator/Designer Connection, J. C. Holesapple,

CE Nov. 82, p64-68. Ground Snow Loads for Structural Design, Bruce Ellingwood and Robert Redfield, ST Apr. 83,

An Integrated System Approach to Structural Synthesis, B. Prasad, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p155-171.

Mathematical Programming in Structural Design, Scott A. Burns and Subramanian Ramamurthy, ST July 83,

p1669-1679.

Octagonal Framed Tube Office Building: History, James S. Notch, ST Dec. 83, p2872-2892.

Optimization Methods in Structural Design Practice, Andrew B. Templeman, ST Oct. 83, p2420-2433. Organization of a Structural Design Database, William J. Rasdorf and Steven J. Fenves, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p559-571.

The Quiet Revolution in Skyscraper Design, Eugene E. Dallair, CE June 83, p54-59.

Reconversion to Coal Firing at Crystal River, Robert P. McBean and Ronald J. Ott, EY Nov. 82, p155-168. Reliability Based Optimum Design of Concrete Frames, Adang Surahman and Kamal B. Rojiani, ST March 83, p741-757.

Safety Checking Formats for Limit States Design, Bruce Ellingwood, ST July 82, p1481-1493.

Shape Optimization of Skeletal Structures: A Review,
B. H. V. Topping, ST Aug. 83, p1933-1951.
Short-Term Records and Extreme Wind Speeds, Emil

Simiu, James J. Filliben and James R. Shaver, ST Nov. 82, p2571-2577.

Structural Design Aspects of a Coastal Building Code, Ralph R. Clark, (Proceedings of Coastal Engineering

Ralph R. Clark, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2285-2299.

Structural Optimization: A State-of-the-Art Report, Ovadia E. Lev, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p90-93.

Structural Steel Details: Is Responsibility a Problem?

Gene Dallaire and Rita Robison, CE Oct. 83, p51-55. Use of Global and Local Analysis Methods in the Structural Design of De Long Piers, Francois Brucker

and Daniel Finiter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p152-162. Wharf Decks - Design Load vs. Cost, Ralph W. Junius, (Proceedings of Ports 83, Kong Wong, ed., 1983), p570-583.

Structural dynamics

Design of Modal Control of Structures, Oren Vilnay, EM Oct. 81, p907-915.

EM GCI. 81, p907-913.
Dynamic Response of Coupled Wall Systems, J. D. Aristizabal-Ochoa, ST Aug. 82, p1846-1857.
Gaussian Outcrossings from Safe Convex Polyhedrons, Ove Ditlevsen, EM Feb. 83, p127-148.
A Microcomputer System for Automated Spectral Analyses of Structural Dynamics, Y. C. Pao, P. W. Whaley, L. C. Chang and G. M. Smith, (Proceedings of the Eighth Conference on Electronic Computation,

James K. Nelson, Jr., ed., 1983), p711-724. Nonlinear Free Vibrations of Suspension Bridges: Theory, Ahmed M. Abdel-Ghaffar and Lawrence I.

Rubin, EM Feb. 83, p313-329.

Nonlinear Free Vibrations of Suspension Bridges: Application, Ahmed M. Abdel-Ghaffar and Law-rence I. Rubin, EM Feb. 83, p330-345.

Practical Reduction of Structural Eigenproblems,

Mario Paz, ST Nov. 83, p2591-2599.

Probability Distribution of Typical Wind Speeds, Karen C. Chou and Ross B. Corotis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p883-886. Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, ed. and A. D. M. Lewis, ed., 1983, 1326pp. Seismic Damage in Reinforced Concrete Frames,

Hooshang Banon, John M. Biggs and H. Max Irvine,

Hooshang Banon, John M. Biggs and H. Max Irvine, ST Sept. 81, p1713-1729. Seismic Design Charts for Coupled Shear Walls, Amiya K. Basu, ST Feb. 83, p335-352. Seismic Safety: 10-Story UBC Designed Steel Building, Shih-Sheng Paul Lai, EM Apr. 83, p557-575. Steel Struts under Severe Cyclic Loadings, Egor P. Popov and Gary R. Black, ST Sept. 81, p1857-1881. Stochastic Response of Yielding Multistory Structures, Loren D. Lutes and Tysh Shang Jan, EM Dec. 83, p462.418 p1403-1418.

Texas Research Center Operates Advanced Dynamics Test Facility, CE Dec. 83, p10.

Structural elements
Bifurcation in Tension of Nonlinear Spherical Caps,
Dov I. Shilkrut, EM Feb. 83, p289-295.

Post-Buckling Behavior, Alexander Chajes, ST Oct. 83, p2450-2462

Structural engineering Building Trends: The View from Houston, Gene

Dallaire, CE July 83, p33-38.

Computers in the Future of Structural Engineering, Steven J. Fenves, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr.,

ente on Electronic Computations
ed., 1983), pl-8.

Fuzzy Sets and Structural Engineering, Colin B. Brown
and James T. P. Yao, ST May 83, pl211-1225.

Highly Conforming High Order Finite Elements, D. A.

Dunavant and W. O. McCarron, (Recent Advances in

Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p810-813.

Rudolph Szilard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p186-196.

L-Shaped Column Design for Biaxial Eccentricity, L. N. Ramamurthy and T. A. Hafeez Khan, ST Aug. 83,

p1903-1917.

Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983, 784pp. Progressive Collapse Resistant Design, John L. Gross and William McGuire, ST Jan. 83, p1-15.

and William McGuire, ST Jan. 83, p1-15.

A Rapid Method of Computing Geometric Relations in Structural Analysis, CE June 83, p51-53.

Robust Penalty Method for Structural Synthesis, Manohar P. Kamat, EM Aug. 83, p1023-1041.

Simplified Analysis of Bundled-Type Structures, Alexander Coull, Bishwanath Bose and Abdulla K. Ahmed, ST May 82, p1140-1153.

Stochastic Response of Yielding Multi-Story Structures, Loren D. Lutes and Tysh Shang Jan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p879-882.

Structural Trends, Irwin G. Cantor, CE June 83, p26.

Structural Trends in New York City Buildings, Eugene E. Dallaire, CE Jan. 83, p30-37.

E. Dallaire, CE Jan. 83, p30-37. Structures Congress '83 Trade Show, CE Sept. 83, p80. The Structures Laboratories at Imperial College, London, Patrick J. Dowling and Roger E. Hobbs, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p601-604.

Uniform Element Modeling of Tapered Frame Members, Eryk Kosko, ST Jan. 82, p245-264.

Structural failures

Analysis of Partially Erected Structures, John L. Gross and Degan G. Hambacher, (Proceedings of the Eighth Conference on Electronic Computation, n James K. Netson, Jr., ed., 1983), p.298-311. Engineers and Attorneys Explore Structural Failures, CE Dec. 83, p64.

Forensic Engineering: What Role for ASCE? Daniel W. Haines, CE July 83, p53-55. Gaussian Outcrossings from Safe Convex Polyhedrons, Ove Ditlevsen, EM Feb. 83, p127-148.

Probability of Failure from Abnormal Load, Bruce Ellingwood, E. V. Leyendecker and James T. P. Yao, ST Apr. 83, p875-890.

Structural Steel Failure, E. Chesson, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p156-173.

Bayesian Approach to Prototype Testing, P. Hauge Madsen and Niels C. Lind, ST April 82, p753-770. Bifurcation in Tension of Nonlinear Spherical Caps, Dov I. Shilkrut, EM Feb. 83, p289-295. Failure Surface of Structural Concrete Members,

Cheng-Tzu Thomas Hsu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p671-682. Marine Parkway Bridge Truss Member Replacement, Robert A. Martin and Jerome S. B. Iffland, ST July

83, p1602-1616. Peak Response of Hysteretic Structures, Faisal Wafa and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p.214-217.

A Rapid Method of Computing Geometric Relations in Structural Analysis, CE June 83, p51-53.

Reliability of Chain and Ductile-Parallel Systems, Mircea Grigoriu, EM Oct. 83, p1175-1188.

Strength Model for Wood Structural Members, Steven

Cramer and James R. Goodman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p737-749.

Alongwind Response Estimation: Closed Form Solution, Giovanni Solari, ST Jan. 82, p225-244.

Structural Identification—Pros and Cons, Paul Ibanez and Kenneth D. Blakely, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p303-306.

Structural reliability

Aerodynamic Coefficients and Risk-Consistent Design, Emil Simiu, ST May 83, p1278-1289. Basic Analysis of Structural Safety, M. Shinozuka, ST

March 83, p721-740.
Estimates of Design Wind from Short Records, Mircea Grigoriu, ST May 82, p1034-1048.

Grigoriu, 51 May 82, p1094-1046.
Gaussian Outcrossings from Safe Convex Polyhedrons,
Ove Ditlevsen, EM Feb. 83, p127-148.
General Structural System Reliability Analysis, R. M.
Bennett and A. H. -S. Ang. (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983), p839-842.

Load-Duration Effects in Westerm Hemlock Lumber, Ricardo O. Foschi and J. David Barrett, ST July 82,

p1494-1510.

On the Evaluation of Collapse Probabilities, M. J. Grimmelt, G. I. Schueller and Y. Murotsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p859-862.

A Practical Probabilistic Model, Achintya Haldar and Bilal M. Ayyub, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p948-951. Probabilistic Failure of Blast Excited Structures, Dennis

Morrison and Thomas L. Paez, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p907-910.

Probability Based Load Criteria: Assessment of Current Design Practice, Theodore V. Galambos, Bruce Ellingwood, James G. MacGregor and C. Allin Cornell, ST May 82, p959-977.

Reliability of Nonlinear Framed Structures, Tai-Yan Kam, Rose B. Corotis and Edwin C. Rossow, ST July 83, p1585-1601.

Reliability of Parallel Systems under Imposed Uniform Strain, M. Hohenbichler and R. Rackwitz, EM June 83, p896-907.

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Safety Checking Formas for Lamin states Leagn, Bruce Elingwood, ST July 82, p1481-1493. Seismic Reliability of Damaged Concrete Beams, M. Shinozuka and R. Y. Tan, ST July 83, p1617-1634. Seismic Reliability of Existing Buildings, Haresh C. Shah and Weimin Dong, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engi-Practice, W. F. Chen, et al, eds., 1983), neering 1 p923-927

p923-921.
Seismic Risk Analysis of Structural Systems, Armen Der Kiureghian, EM Dec. 81, p1133-1153.
System Reliability Bounding by Conditioning, Ove Ditlevsen, EM Oct. 82, p708-718.
Transient Load Modeling: Clipped Normal Processes, Ove Ditlevsen and Henrik O. Madsen, EM Apr. 83,

Wind Direction and Structural Reliability, Yi-Kwei Wen, ST Apr. 83, p1028-1041.

Structural response
Alongwind Response Estimation: Structural Classification, Giovanni Solari, ST Feb. 83, p575-580.

Analytical and Experimental Structural Response, Kenneth M. S. Mark and Frank H. Brittain, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p585-588.

Calculation of Power Spectra from Response Spectra, Dieter D. Pfaffinger, EM Feb. 83, p357-372. Dynamic Analysis of Light Equipment in Structures: Modal Properties of the Combined System, Jerome L. Sackman, Armen Der Kiureghian and Bahram

Nour-Omid, EM Feb. 83, p73-89.

Dynamic Analysis of Light Equipment in Structures:

Response to Stochastic Input, Armen Der Kiureghian, Jerome L. Sackman and Bahram Nour-Omid, EM Feb. 83, p90-110.

Free Vibration of Parabolic Cables, Anestis S. Veletsos and Georges R. Darbre, ST Feb. 83, p503-519. Inelastic Building Analysis Based on INRESB-3D-II, Franklin Y. Cheng and James A. Volker, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p501-514. Multiple Time History Seismic Evaluation, Daniel M.

Brown, Donald W. Whitmire and James E. Beavers, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p222-225.

Orientation of Ribs in Waffle-Slab Skew Bridges, John B. Kennedy, ST March 83, p811-816.

B. Kennedy, S. March 83, p811-810.
Performance of Cable Trusses under Static Loads, Prem
Krishna, Vijaya K. Gupta, Ashok K. Ahuja and
Ashok K. Mittal, ST Jan. 82, p265-282.
Probabilistic Optimum Base Isolation of Structures,
Michalakis C. Constantinou and Iradj Tadjbakhsh,

ST March 83, p676-689.

Seismic Energy Response of Structures, Bahram Safavi and Anne S. Kiremidjian, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p218-221.

Stationary and Transient Response Envelopes, Steen Krenk, Henrik O. Madsen and Peter H. Madsen, EM

Feb. 83, p263-278. Structural Response to Modulated Random Excitations, Mircea Grigoriu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p263-266.

Structural safety

Basic Analysis of Structural Safety, M. Shinozuka, ST

March 83, p721-740. undamental Postulate in Structural Safety, Ove Fundamental Ditlevsen, EM Aug. 83, p1096-1102.

Structural settlement

Implied Warranty, House and Lot, CE Oct. 83, p27. Laterally Loaded Pile Behavior, Michael Georgiadis and Roy Butterfield, GT Jan. 82, p155-165. Settlement of Raft Foundations, J. Neil Kay and

Richard L. Cavagnaro, GT Nov. 83, p1367-1382. Settlement-Time Predictions in Preloading, Aris C. Stamatopoulos and Panaghiotis C. Kotzias, GG June 83, p807-820.
Tolerable Settlement of Buildings, Harvey E. Wahls,

GT Nov. 81, p1489-1504.

Structural stability

Buckling of Four Equal-Leg Angle Cruciform Columns, Erling A. Smith, ST Feb. 83, p439-450.

Erling A. Smith, ST Feb. 83, p439-450. Design of Mound Breakwaters, Per Bruun and Sverre Kjelstrup, (Coastal Structures '83, J. R. Weggel, ed., 1983), p122-138. Elastic Critical Loads on Multistory Rigid Frames, Esmat S. Awadalla, ST May 83, p1091-1106. An Energy Method for Nonlinear Struct. Analysis, Rudolph Szilard, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Ir. ence on Electronic Computation, James K. Nelson, Jr., ed., 1983), p390-403.

Higher Order Instabilities in Single Mode Structures, David Hui, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al, eds., 1983), p1091-1094.
Octagonal Framed Tube Office Building: A Case
History, James S. Notch, ST Dec. 83, p2872-2892. Post-Buckling Behavior, Alexander Chajes, ST Oct. 83, p2450-2462.

Seismic Risk Analysis of Structural Systems, Armen Der Kiureghian, EM Dec. 81, p1133-1153.

Structural steels

Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus, ed., 1983, 218pp. Structural Steel Details: Is Responsibility a Problem?

Gene Dallaire and Rita Robison, CE Oct. 83, p51-55. Structural Steel Failure, E. Chesson, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p156-173.

Structural strength

West Breakwater-Sines New Aspects of Armor Units, R. L. Greeneveld, A. Mol and P. A. J. Zwetsloot, (Coastal Structures '83, J. R. Weggel, ed., 1983), p45-56.

Structure reinforcement Shear Strength of R/C Beam-Column Connections. Donald F. Meinheit and James O. Jirsa, ST Nov. 81. p2227-2244.

Structures

Large Scale Seismic Testing of Building Structures, Shin Okamoto, Takashi Kaminosono, Masayoshi Nakashima and Hiroto Kato, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p634-637.

Seismic Test Facilities for Building Structures in Japan, Katsuro Kamimura and Masayoshi Nakashima, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p638-641.

Inelastic Post-Buckling Analysis of Trusses, Manolis

Inelastic Post-Bucking Analysis of Irusses, Manolis Papadrakakis, ST Sept. 83, p2129-2147. Multiple Column Curves by Modifying Factors, J. Michael Rotter, ST July 82, p1665-1669. Steel Struts under Severe Cyclic Loadings, Egor P. Popov and Gary R. Black, ST Sept. 81, p1857-1881.

1984 Mead Prize for Students Announced, CE June 83,

Engineering Students Perception of General Educational Requirements, Richard H. McCuen, El Oct. 83, p256-264.

An Essential Link to Understanding Public Policy Makers, Helen Bogolubov Desai, CE June 83, p104. High Drop Rate for Minority Engineering Freshmen, CE Jan. 83, p12.

Minority Students Look at Engineering, CE April 83, p18.

Report Shows Engineering Enrollment Rise, CE Dec. 83, p10.

Why Is Northeastern University's Student Chapter So Strong? Carol J. Lamb, CE July 83, p6.

Subcritical flow

Comparison of Open Channel Constriction Ratings, Abbas A. Fiuzat and Gaylord V. Skogerboe, HY Dec. 83, p1589-1602.

Open Channel Transitions: Rational Method of Design, Nandana Vittal and V. V. Chiranjeevi, HY Jan. 83,

p99-115. Subgrade

Assess Subgrade Rutting Potential by Stress Factor, Yu T. Chu, TE May 83, p462-470. Comparative Analyses of Rigid Pavements, Yu T.

Chou, TE Sept. 83, p669-688.

An Improvement of Winkler Foundation, Abdul Quddus Mohammed, (Recent Advances in Engineering Quiduis Monamines, (necessis Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p439-442. Modulus of Subgrade Reaction: New Perspective, John S. Horvath, GT Dec. 83, p1591-1596.

Subgrade Contact Pressures under Rigid Pavements, Yu T. Chou, TE May 83, p363-379.
Underpinning with Chemical Grout, W. C. Pete Parish,

Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Submarine pipeline Collapse of Thick Wall Pipe in Ultra Deep Water, Edward A. Verner, Carl G. Langner and Michael D. Reifel, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p159-187.

Submarine pipelines
Modified Reel Methods for Subsea Arctic Pipelines, Peter P. Bryce and Jeffrey M. Key, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p486-499.

Pipeline Shore Approach: Analysis and Design, Henry H. Chang and Jorge Ford, TE Nov. 83, p853-867. Scouring Induced Vibrations on Sub-Sea Pipelines, Amit B. Ghosh and Louis M. Laushey, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p108-128.

Specifying Offshore Pipe Installation: A Case Study, Leonard C. Dawson and Bruce A. Bennett, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

p620-638.

Wave-Induced Pressures on Buried Pipelines, Susan H. Davidson, William G. McDougal and Charles K. Sollitt, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p129-143. Wave-Induced Seepage Effects on a Buried Pipeline,

Peter L. Monkmeyer, Pierfrancesco Mantovani and Hugues Vincent, (Coastal Structures '83, J. R. Weggel, ed., 1983), p519-531.

Submerged discharge Confined Radial Buoyant Jet, David J. Fry and E. Eric Adams, HY Sept. 83, p1185-1202.

Submerged flow

Comparison of Open Channel Constriction Ratings, Abbas A. Fiuzat and Gaylord V. Skogerboe, HY Dec. 83, p1589-1602.

Erosion by Submerged Circular Jets, Nallamuthu Rajaratnam, HY Feb. 82, p262-267. Surging in Combined Free Surface-Pressurized Systems, Mark J. Sundquist and Constantine N. Papadakis, TE March 83, p232-245.

Submerged jets

Impingement of Water Jets on Nonuniform Stream Bed, Walter C. Mih and Jobaid Kabir, HY Apr. 83, p536-548.

Wall Stress Distribution Due to Jet Impingement, Mohan D. Deshpande and Ramesh N. Vaishnav, EM Арг. 83, р479-493.

Subsidence

Estimating Failure Probabilities for California Levees, James M. Duncan and William N. Houston, GT Feb. 83, p260-268

Geotechnical Considerations of Las Vegas Valley, Joseph M. Cibor, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p351-373.

Historical Account of the Construction and Maintenance of Drydock No. I Long Beach Naval Shipyard, Long Beach, California, Ross A. Morrison, (Proceedings of Ports 83, Kong Wong, ed., 1983), p730-744.

Develping Bus Operating Cost Models: A Methodology, Reggie J. Caudill, Richard A. Kaplan and Anne Taylor-Harris, TE March 83, p273-285. Waterway User Taxes: Myths, Facts, and Real Surprises, Richard A. Wilson, El July 83, p235-241.

Frictional Slip Between Layer and Substrate, David Schmueser, Maria Comninou and John Dundurs, EM Dec. 81, p1103-1118.

Subsurface drainage

Agricultural Drainage Well Impacts in Iowa, T. Al Austin and James L. Baker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p328-336.

Subsurface drains

Nonpoint Contributions from Subsurface Drains, J. C. Guitjens and P. -S. Tsui, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p320-327.

Subsurface exploration
Proceedings of the Conference on Geotechnical Practice in Offshore Engineering, Stephen G. Wright, ed., 1983, 630pp.

Measurements of Hydraulic Conductivity for Evaluation of Subsurface Movement of Hazardous Wastes, R. Jeffrey Dunn, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

Subsurface investigations
Construction Contract, Additional Expense, CE April

Geotechnical Characterization of Ohio Valley Soils, David M. Cregger, Peter J. Majeski and Thomas Y. Chang, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p387-404.

Subway tunnels

Pipe-Jacking: State-of-the-Art in UK and Europe, T. E. Clarkson and J. C. Thomson, TE Jan. 83, p57-72. Underpinning with Chemical Grout, W. C. Pete Parish, Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Minority Firm Gains Major Design Work on LA Subway, CE Sept. 83, p20. New York's MTA Raises \$8.5 Billion for Mass Transit,

Allen Morrison, CE July 83, p42-45.

Subway, CE June 83, p48-49.
Underground Transit Station Construction in Japan, Boyd C. Paulson, CO March 82, p23-37.

Adverse Local Wind Loads Induced by Adjacent Building, David Surry and William Mallais, ST March 83, p816-820.

Sulfide buildup
Prediction of Sulfide Buildup in Sanitary Sewers, Karl
E. Kienow, Richard D. Pomeroy and Kenneth K. Kienow, EE Oct. 82, p941-956.

Passive Treatment of Sulfide Stockpile Runoff, Kim Lapakko and Paul Eger, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p643-651.

Fly Ash Sulfur Concrete, William J. Head and Min-Fu Liao, TE May 81, p345-363.

Sweeney, Rex A. Elder and Duncan Hay, HY March 82, p361-377. Pump-Sump Design Experience: Summary, Charles E.

Scale Effects of Modeling Flow Conditions in Pump Sumps, M. Padmanabhan and G. E. Hecker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p153-158.

Superstructures

Breakwater Superstructures, Ole Juul Jensen, (Coastal Structures '83, J. R. Weggel, ed., 1983), p272-285.

Periodically Supported Heavy Elastic Sheet, L. T. Watson and C. Y. Wang, EM June 83, p811-820.

Surcharge

Protection of Pipelines Subject to Surcharge Loads, Eugene M. Kovach, TE Nov. 82, p540-549.

Surf beat

Laboratory Study of Reef-Lagoon System Hydraulics, William N. Seelig, WW Nov. 83, p380-391.

Analogous Dispension Properties of Surf Zone and Electromagnetic Waves, Fritz Bosching, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p154-171.

A Field Study of Waves in the Nearshore Zone. S. Hotta, M. Mizuguchi and M. Isobe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p38-57

Forces Induced by Breakers on Piles, Robert L. Wiegel, (Proceedings of Coastal Engineering 82, Vol. II, Billy

L. Edge, ed., 1983), p1699-1715. Hazards to Marine Pipelines, J. T. Powers, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Individual Wave Analysis of Irregular Wave Deformation in the Nearshore Zone, Masaru Mizuguchi, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p485-504.

Shore-Parallel Flows in a Barred Nearshore, Brian Greenwood and Douglas J. Sherman, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1677-1996.

Wave Height Distributions and Wave Grouping in Surf Zone, Hajime Mase and Yuichi Iwagaki, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p58-76.

Surface Irrigation
Automated Telemetric Irrigation Controller, H. D. Fisher, A. S. Humpherys and D. A. Young, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

Derivation of Mean Depth in the Lewis-Milne Equation for Border Irrigation Advance, Vijay P. Singh and Shyam N. Prasad, (Advances in Irrigation and Drain-age, John Borrelli, ed., 1983), p234-241. Kinematic-Wave Furrow Irrigation Model, Wynn R.

Walker and Allan S. Humphreys, IR Dec. 83,

Semi-Analytical Approach to Kinematic Wave Equations for Design of Border Irrigation, Vijay P. Singh and Rama S. Ram, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p242-249.

Zero-Inertia Modeling of Furrow Irrigation Advance, Ronald L. Elliott, Wynn R. Walker and Gaylord V.

Skogerboe, IR Sept. 82, p179-195.

Opposing Wave Effect on Momentum Jets Spreading Rate, Nabil M. Ismail and Robert L. Wiegel, WW Nov. 83, p465-483.

Vertical Round Bouyant Jet in Shallow Water, Joseph H. W. Lee and Gerhard H. Jirka, HY Dec. 81, p1651-1675.

Surface mining
Groundwater Effects of Surface Mining in North
Dakota, M. R. Fujioka and T. E. Rosengerelli, (Advances in Irrigation and Drainage, John Borrelli,

ed., 1983), p36-43.
Post Surface Mining Drainage Basin Water Quality:
Relationship to Mining and Reclamation Practice, Areal Disturbance, and Time, Paul S. Dickens, Roger A. Minear and Raymond R. Rose, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p625-634.

Surface roughness

Hydraulic Resistance of Pavement Surfaces, Joseph R. Reed and David F. Kibler, TE March 83, p286-296. Mixing Lengths for Turbulent Flow over Rough Surfaces, Paul S. Granville, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1206-1207.

Stokes Flow in Rough Channels, Nhan Phan-Thien and J. D. Atkinson, EM June 83, p756-764.

The Curve Number Runoff Model as an Infiltration Model for Hydrograph Simulation, Michael E. Meadows and Allen L. Chestnut, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p298-307.

Hydrogeologic Input on Generating Synthetic Flows, Turan Otova, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p514-519.

Hydrologic Delineation of Nonpoint Source Contrib-uting Areas, William J. Gburek, EE Oct. 83, uting Area p1035-1048.

Recursive Estimation in Nonlinear Hydrologic Model, Srinivas G. Rao and A. Ramachandra Rao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p499-504.

Roughness Coefficients for Routing Surface Runoff, Edwin T. Engman, (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p560-565.

Surface waters

National Water-Use Information Program, William B. Mann, IV, John E. Moore and Edith B. Chase, WR

Apr. 83, p186-194.

Water Conserv I: No More Discharge to Surface Water, Walter R. Fritz, John J. Kincaid, Kermit L. Prime and Michael J. Hanlon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p58-65.

Water Diversion Contractor Liable, CE Jan. 83, p14.

Opposing Wave Effect on Momentum Jets Spreading Rate, Nabil M. Ismail and Robert L. Wiegel, WW Nov. 83, p465-483.

Surfing Interests in Coastal Zone Planning, Tom Pratte, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2683.

Surging in Combined Free Surface-Pressurized Systems, Mark J. Sundquist and Constantine N. Papadakis, TE March 83, p232-245.
Transient Mixed-Flow Models for Storm Sewers, C. S.

Song, James A. Cardle and Kim Sau Leung, HY Nov. 83, p1487-1504.

Surveying
Area Computation Using Salient Boundary Points,
Fouad A. Ahmed, SU March 83, p54-63.
Centimeter-Level Relative Positioning with GPS,
Charles C. Counselman, III, Richard I. Abbot, Sergai
A. Gourevitch, Robert W. King and Albert R.
Paradis, SU Aug. 83, p81-89.
Location of Railroad Boundaries, Andrew C. Kellie, A.
Essam Radwan and Dewey R. Houck, II., SU March
83, p14-87.

83, p14-23

Map Uses, Scales and Accuracies for Engineering and Associated Purposes, Committee on Cartographic Associated Purposes, Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chmn.), 1983, 168pp.

Navstar Global Positioning System, Henry R. Heuerman and Walter J. Senus, SU Aug. 83, p73-80.

New Positioning Power for the Surveyor, Paul D. Rodgers, SU Aug. 83, p90-98.

Non-Center Line Layout, Frank Pearson, SU March 83, e24-36.

p24-36. Phototriangulation with Analyatical Plotters, Armin

Gruen, SU March 83, p6-13.

Surveying: The Profession and Its Requirements, Hallas H. Ridgeway, SU April 82, p18-22. The Three Point Resection: An Alternate Method, Roy

H. King, CE April 83, p67-68

Tidal Corrections in Hydrographic Surveying, Carvel Blair, WW Feb. 83, p31-40.

200

Surveys Inertial Survey Systems, Edward F. Roof, SU Aug. 83, p116-135

e Monitoring of Rubble Mound Breakwater Stability Ine Monitoring of Rubble Mound Breakwater Stability Using a Photographic Survey Method, J. W. J. Kluger, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2164-2170.

Storm Damage to San Francisco's Ocean Beach Resulting from the January 1983 Storms, R. M. Ecker, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p2630.

eds., 1983), p.2030.

Surveys, data collection

ASCE Salary Survey 1981, Committee on Employment
Conditions of the Professional Practice Division of
the American Society of Civil Engineers, 1982, 76pp.
Forensic Engineering: What Role for ASCE? Daniel W.
Haines, CE July 83, p.53-55.

Results of Survey Questionnaire of Surveying and
Mapping Division, Bonnie S. Maynard, SU March
83, p.37-53. Seeded, CE Nov. 83, p.78.

Salary Data Needed, CE Nov. 83, p.78.

Salary Index. CE Dec. 83, p.65.

Salary Index, CE Dec. 83, p65.

Suspended load

Modified Kinematic Model: Application to Bed Forms, Charles C. S. Song, HY Aug. 83, p1133-1151.

spended sediment

Channel Shoaling Prediction: A Method and Application, R. B. Harley and R. G. Dean, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1199-1218.

Landsat and Suspended Sediment in Reservoir, Scott A. Morris and Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p598.

Resuspension of Deposited Cohesive Sediment Beds, Ashish K. Mehta and Emmanuel Partheniades, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1569-2588. Sediment Transport Investigations in a New Zealand

Tidal Inlet, K. P. Black and T. R. Healy, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2436-2457.

p2436-2457.
Suspended Sediment Discharge on a Non-Tidal Coast,
J. P. Coakley and M. G. Skafel, (Proceedings of
Coastal Engineering 82, Vol. 11, Billy L. Edge, ed.,
1983), p1288-1304.
Unsteady Transport of Suspended Load at Small
Concentrations, Pin-nam Lin, Juqing Huan and
Xinquen Li, HY Jan. 83, p86-98.

Wave and Current Interaction in the Near Bed Region, Patrick H. Kemp and Richard R. Simons, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p404-412.

Suspended sediments
Adsorption of Hydrophobic Pollutants in Estuaries,
John P. Connolly, Neal E. Armstrong and Richard
W. Miksad, EE Feb. 83, p17-35.
Desorption Kinetics in Modeling of Toxic Chemicals,
Peter R. Jaffe and Raymond A. Ferrara, EE Aug. 83,

Instrumentation Developments for Benthic Boundary Layer and Sediment Resuspension Studies, K. W. Bedford, A. J. Williams, IV, J. R. V. Zanevald, Y. C. Agrawal, F. Hess, V. K. Varadan and V. V. Varadan, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p122.

Measurements of Turbulence over Vortex-Ripple, Masaki Sawamoto, Toshihiko Yamashita and Tadashi Kitamura, (*Proceedings of Coastal Engineering 82, Vol. I,* Billy L. Edge, ed., 1983), p282-296. Reflections on Rivers, Research, and Rouse, John F. Konzeld, HV Oct. 32, 21232 1997.

Kennedy, HY Oct. 83, p1253-1271.

Remodified Einstein Procedure for Sediment Load, Hsieh W. Shen and Cary S. Hung, HY Apr. 83,

Sampling Strategies for Mass-Discharge Estimation, Byron Bodo and T. E. Unny, EE Aug. 83, p812-829.

Sampling Strategy for River Pollutant Transport, Stephen M. Yaksich and Frank H. Verhoff, EE Feb.

83, p219-231.

Sediment Suspension with Rippled Bed, Syunsuke Ikeda and Takashi Asaeda, HY March 83, p409-423. Sediment Transport and Unit Stream Power Function, Chih Ted. Yang and Albert Molinas, HY June 82, p774-793

Suspended Sediment Effect on Flow Resistance, Y. Lam Lau, HY May 83, p757-763. Suspended Sediment Profile for Ice-Covered Flows, Bommanna G. Krishnappan, HY March 83, p385-

Total Suspended Solids in Highway Runoff in Washington State, Randy Asplund, Brian W. Mar and John F. Ferguson, EE April 82, p391-404.

Suspended solids

Distribution of Kepone in the James River Estuary, Donald J. O'Connor, John A. Mueller and Kevin J. Farley, EE Apr. 83, p396-413.

Dredged Material Sedimentation Basin Design, Ray-

mond L. Montgomery, Edward L. Thackston and Frank L. Parker, EE Apr. 83, p466-484. Forces Acting on Floc and Strength of Floc, Tomonori

Matsuo and Hideaki Unno, EE June 81, p527-545. Pollutant Loading Model for Highway Runoff, Tai Wik Chui, Brian W. Mar and Richard R. Horner, EE Dec. 82, p1193-1210.

Polymer Dosage Control in Dissolved Air Flotation, Ronald Gehr and J. Glynn Henry, EE Apr. 83, p448-465.

Truck Suspension Models, Krishnan Kutty Kunjamboo and Colin O'Connor, TE Sept. 83, p706-720.

The Use of a GIS for Gulf of Mexico Wetland Change, James B. Johnston and Robert R. Ader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p362-371.

Sweden

Nuclear Wastes Stored Below Ground in Sweden, CE Dec. 83, p14.

Porewater Pressures Due to Overburden Removal, Sivajogi D. Koppula, GT Aug. 83, p1099-1110.
Swell of Wyoming Montmorillonite and Sand Mixtures,
Mehmit A. Sherif, Isao Ishibashi and B. W. Medhin,

GT Jan. 82, p33-45.

Symbols

Map Content and Symbols: Chapter V of Proposed Manual on Map Uses, Scales, and Accuracies for Engineering and Associated Purposes, Robert P. Jacober, Jr., SU Nov. 80, p41-72.

Map Uses, Scales and Accuracies for Engineering and Associated Purposes, Committee on Cartographic Associated Pulposes, Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chmn.), 1983, 168pp.

Robust Penalty Method for Structural Synthesis, Manohar P. Kamat, EM Aug. 83, p1023-1041.

Synthetic fuels

In-Ground Storage Area Completed for Syn-Fuel Plant, CE June 83, p16.

Land Treatment of Synfuel Organic Sludges, Edward C. Davis, Margaret R. Helton and Della S. Marshall, EE Oct. 83, p1068-1081.

System reliability Reliability of Chain and Ductile-Parallel Systems, Mircea Grigoriu, EM Oct. 83, p1175-1188. Reliability of Parellel Structural Systems, Robert E.

Melchers, ST Nov. 83, p2651-2665.
Reliability-Based Progressive Fatigue Collapse, Scott G.
Martindale and Paul H. Wirsching, ST Aug. 83, p1792-1811.

System Reliability Bounding by Conditioning, Ove Ditlevsen, EM Oct. 82, p708-718.

Systems egineering

Design of Inland Navigation Fairways, Henk G. Blaauw and Henk J. Verhey, WW Feb. 83, p18-30.

Systems engineering Optimal Design of Small Reservoir Systems, Prem N. Sharma and Otto J. Helweg, IR Dec. 82, p250-264. Project Control Using a Standard Identification System, G. R. Miehe, B. R. Hubal and J. R. Koupal, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p162-177

Reliability Analysis of Lifeline Systems, Hideji Kawa-

kami, TC Aug. 83, p117-131.

Load Interaction in T-Joints of Steel Circular Hollow Sections, Alex Stamenkovic and Keith D. Sparrow, ST Sept. 83, p2192-2204.

Analyses of Flow Failures of Mine Tailings Dams, Jey K. Jeyapalan, J. Michael Duncan and H. Bolton Seed, GT Feb. 83, p150-171.

The Geology and Soil Properties of a Project in S.E. Alaska, Jack A. Caldwell and Allan S. E. Moss. (Geological Environment and Soil Properties, Ray-

mond N. Yong, ed., 1983), p57-81.

Investigation of Flow Failures of Tailings Dams, Jey K.

Jeyapalan, J. Michael Duncan and H. Bolton Seed,

GT Feb. 83, p172-189.
Seepage from Free Water above Impermeable Tailings,
Lewis T. Isaacs and Bruce Hunt, GT Nov. 81, p1563-1577.

Use of Fjords for Disposal of Mine Tailing, Lee Harding, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p32-51.

Oxygen Modeling in Tailwaters of Hydro Projects, Gary E. Hauser and Lisa M. Beard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p392-397.

Taiwan

Tidal Computation on Taiwan Strait, Fuh Yin and Sen-Ho Chen, WW Nov. 82, p539-553.

Active Control of Tall Buildings, Mohamed Abdel-Rohman and Horst H. Leipholz, ST March 83, p628-645

Analysis of Complex Shear Wall Structures, B. S Taranath, M. B. Kanchi, B. Kadaikal and M. Vasseghi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p622-632

An Approximate Dynamic Analysis of Tall Buildings, P. C. Chang and D. A. Foutch, (Proceedings of the

Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p365-378.

Approximate Method for Lateral Load Analysis of High Rise Buildings, Fernand K. E. C. Mortelmans, Guido P. M. J. De Roeck and Dionys A. Van Gemert, ST Aug. 81, p1589-1610.

Approximate Stiffness Method for Dynamic Analysis. Ali A. K. Haris and Shatha Naman, (Proceedings of the Eighth Conference on Electronic Computation,

the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p233-241. Automated Design of Aseismic R/C Structures, Farzad Naeim and James C. Anderson, (Proceedings of the Eighth Conference on Electronic Computation, James

K. Nelson, Jr., ed., 1983), p608-621. Characteristics of Pressure Fluctuations on the Windward and Leeward Faces of a Tall Building Model,

ward and Leeward Faces of a Tall Building Model,
A. Kareem, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,
W. F. Chen, et al., eds., 1983), p1228-1231.
Control of Tall Buildings in Along-Wind Motion, J. N.
Yang and B. Samali, ST Jan. 83, p50-68.
Distribution and Correlation of Dynamic Wind Loads,
Timothy A. Reinhold, EM Dec. 83, p1419-1436.
Dynamic Analysis of Tall Buildings, Mir M. Ali,
(Proceedings of the Eighth Conference on Electronic
Computation, James K. Nelson, Jr., ed., 1983),
p351-364. p351-364.

Eccentric Bracing in Tall Buildings, Andrew T. Mero-

vich, Joseph P. Nicoletti and Earl Hartle, ST Sept. 82. 2066-2080.

Effect of Tuned-Mass Dampers on Seismic Response, John R. Sladek and Richard E. Klingner, ST Aug. 83, p2004-2009

Finite Element for Shear Walls in Multistory Frames, William Weaver, Jr., Dong-Guen Lee and George Derbalian, ST July 81, p1365-1369.

Inelastic Dynamic Response of Braced Tall Buildings to Earthquakes, P. Jayachandran and G. Asfour, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), p146-149.

Octagonal Framed Tube Office Building: A Case
History, James S. Notch, ST Dec. 83, p2872-2892. Probabilistic Optimum Base Isolation of Structures, Michalakis C. Constantinou and Iradj Tadjbakhsh.

Michalakis C. Constantinou and Iradj Tadjbakhsh, ST March 83, p676-689.

The Quiet Revolution in Skyscraper Design, Eugene E. Dallair, CE June 83, p54-59.

Seismic Design Charts for Coupled Shear Walls, Amiya K. Basu, ST Feb. 83, p335-352. Semi-Active versus Passive or Active Tuned Mass

Dampers for Structural Control, Davorin Hrovat, Pinhas Barak and Michael Rabins, EM June 83, p691-705. Shear Walls Coupled by Cross Wall, Wai K. Tso, ST

Aug. 83, p2010-2016

A Simple Dynamic Model for Asymmetrical Buildings, Thambirajah Balendra and Seng-Lip Lee, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p633-645. Skyscraper Design (ltr.), Morton H. Eligator, CE Dec.

83, p22

Staggered Shear Panels in Tall Buildings, K. N. V. Prasada Rao and K. Seetharamulu, ST May 83,

p1174-1193. Structural Trends in New York City Buildings, Eugene

E. Dallaire, CE Jan. 83, p30-37.
West Coast High-Rise Condo Opts for Ductile Concrete Frame, Craig G. Huntington and Y. C. Yang, CE July 83, p39-41.
World's Tallest Building? (ltr.), Gordon F. Cowie, CE

Aug. 83, p22.

Tall structures

Ductile Anchor Bolts for Tall Chimneys, Stephen J. Powell and Anthony H. Bryant, ST Sept. 83. p2148-2158.

Tanks, containers

Nonlinear Analysis of Liquid-Filled Tank, Wing Kam Liu and Dennis Lam, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al, eds., 1983), p1079-1082.
Optimal Design of Small Reservoir Systems, Prem N.

Sharma and Otto J. Helweg, IR Dec. 82, p250-264. Stresses in Buried Cylindrical Tanks, Rudolf E. Elling, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p451-454.

Taxation

laxation
Borrow Dirt, Use Tax, CE Nov. 83, p22.
Intercity License, Unconstitutional, CE Apr. 83
Public Contracts, CE Sept. 83, p26.
Taxation, CE Sept. 83, CE June 83, p22.
Taxation Abatement Denied, CE Jan. 83, p14.
Taxation, Business "Image", CE Nov. 83, p22.
Taxing Church Buildings, CE Nov. 83

Federal Fuel Tax Hike Spurs State Highway Spending, CE Oct. 83, p10.

New Gas Tax Proposed for Highway Work and Bridges, CE Apr. 83, p8. Working Abroad? What About Taxes? J. Justin Doyle,

CE Jan. 83, p41-43.

Teaching methods and content

Student Performance in Televised Lectures, Anthony Tarquin, Lionel Craver and Darrell Schroder, El July 83, p208-213.

Technology

Managing Technological Innovation, CE Feb. 83, p26. New Ocean Technologies in the Twenty-First Century, Tracy Heenan Walklet, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p783-790.

Technology assessment
Marine Geotechnical Investigations, A Mature Technology, J. de Ruiter and A. F. Richards, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p1-24. Synthetic Fabrics as Soil Filter: A Review, David J. Hoare, GT Oct. 82, p1230-1245.

Technology transfer
Technology Transfer - Is it Being Done? Raymond K.
Moore, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p92-102.

Temperature distribution

Heat Conduction through Layered Refractory Linings, Oral Buyukozturk and Tsi-Ming Tseng, EM Aug. 83, p1000-1015.

Temperature Stresses in Composite Box Girder Bridges, Walter H. Dilger, Amin Ghali, Mathew Chan, Mo S. Cheung and Marc A. Maes, ST June 83, p1460-1478.

Temperature Variations in Concrete Bridges, Mamdouh M. Elbadry and Amin Ghali, ST Oct. 83, p2355-2374.

Temperature effects
Cold Weather Effects on Underground Pipeline Failures, G. Hossein Bahmanyar and Tuncer B. Edil, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p579-593.

Cooling Curve Prediction of Asphaltic Concrete, R. Kenneth Wolfe, George L. Heath and David C. Colony, TE Jan. 83, p137-147.

Effect of Gradients on Acoustic Velocity Meter, Henry

T. Falvey, HY Nov. 83, p1441-1453. Estimating Potential Evapotranspiration, George H. Hargreaves and Zohrab A. Samani, IR Sept. 82, p225-230. On Micromechanics of Strength Degradation in Metals,

On Micromechanics of Strength Degradation in Metals, S. Nemal-Nasser, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p642-643. Random Thermal Stresses by Finite Elements, M. P. Singh, T. Kuppusamy and R. A. Heller, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p652-655.

Temperature Corrections to Rate Coefficients, R. Wane Schneiter and William J. Grenney, EE June 83,

Temperature Effects: Methane Generation from Landfill Samples, Kenneth E. Hartz, Robert E. Klink and Robert K. Ham, EE Aug. 82, p629-638.

Thermal Effects on Vibration of Elliptical Plates, Muthukrishnan Sathyamoorthy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p251-254.

Viscoplastic Fatigue Effects at Elevated Temperatures, James E. Keck and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p648-651.
Water Requirements and Man-Induced Climate Change, George H. Hargreaves, IR Sept. 81, p247-255.

Protecting Post-Tensioning Tendons in Concrete Struc-tures, Morris Schupack, CE Dec. 82, p43-45.

Tennessee Valley Authority
Fifty Years of Operation of the TVA Reservoir, Bevan
W. Brown and Robert A. Shelton, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p138-151.

TVA Considers New Role After 50 Years, CE July 83, p8.

Tensile loading

Axial Capacity of Steel Pipe Piles in Clay, Norman D. Dennis and Roy E. Olson, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p370-388.

Tensile members

Optimum Design of Prestressed Concrete Tension Members, Antoine E. Naaman, ST Aug. 82, p1722-

Tensile strength

Estimating Correlation between Strength Properties, David W. Green and James W. Evans, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p936-939.

Load Capacity of Row of Shear Plate Connectors. Marie-Anne Erki and Mark W. Huggins, ST Dec. 83,

p2786-2801.

Tensile stress The Strength and Behavior of Steel-Fiber Reinforced Concrete under Combined Tension-Compression Loading, Roger W. Meier, Hon-Yim Ko and Stein Sture, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p952-955.

Throgs Neck Bridge: Why Did Its Deck Deteriorate?

Benjamin Forsyth and Frank L. Stahl, CE July 83,

p50-52.

Terminal Facilities

Atlanta's New Central Passenger Terminal Complex, James F. Kortan, TE Nov. 80, p765-774.

Australian Coal Terminal Operates Happily Beside Residential Area, Gary Goldstein, CE Dec. 83, p34-37.

p.34-37.
Coal Terminal, CE June 83, p60-61.
Coal-Transshipment Facilities: A Regulatory Guide, B.
William Garland, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p1041-1051.
'CONBATCH' A Container Terminal Concept for the

Future, Ernst G. Frankel, (Proceedings of Ports 83, Kong Wong, ed., 1983), p234-240.
Cost Comparison of Container Handling Techniques, George Christou Hatzitheodorou, WW Feb. 83, p54-62.

Developments in Marine Container Terminals, Leo Donovan and Phillip Radzikowski, (Proceedings of

Ports 83, Kong Wong, ed., 1983), p97-106.
Discussion of the San Francisco Bay Area Seaport Plan, Dennis R. Fay, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p273-286.

Environmental Aspects of an Offshore Coal Terminal, David Atkin and Andrew T. Zador, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p997-1014. Fender System Problems in U. S. Ports, Dennis V. Padron and H. Y. Han, WW Aug. 83, p296-309.

Important Aspects of Port/Railroad Interface, Winn B. Frank, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p299-318.

eds., 1963), 229-318.

Modernization and Upgrading of Shoreside Container Cranes, William L. Casper, (Proceedings of Ports 83, Kong Wong, ed., 1983), p107-113.

Modernization of a Breakbulk Terminal to an Omni-Terminal at the Port of Long Beach, Charles F. Connors, (Proceedings of Ports 83, Kong Wong, ed., 1983), p802-815.

Modernization of a Container Terminal, Walter D. Ritchie and Wade W. Watson, (Proceedings of Ports 83, Kong Wong, ed., 1983), p254-268.

Modernization of Castle Island Marine Terminal,

Morris S. Levy and David B. Weiner, (Proceedings of

Morris S. Levy and David B. Weiner, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p649-661.

The Newest Transshipment Terminal on the Great Lakes, A. T. Yu, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p427-441.

Planning for a Future Energy Terminal in Florida, William K. Fehring, Ray S. Hansen and Richard S. Nugent, (*Coastal Zone '83*, Orville T. Magoon, et al., 1983), 2017-2018. eds., 1983), p287-298.

Planning Redevelopment and Modernization-Port of Oakland, Paul H. Sorensen, (Proceedings of Ports 83,

Oantand, Faul In Stolenson, (Proceedings of Forts S., Kong Wong, ed., 1983), p62-73.

Preliminary Inspection of Pier Structures, Bryan D. Wesselink and Richard B. Harley, (Proceedings of Ports 83, Kong Wong, ed., 1983), p51-61.

Transportation Strategies for Export Coal Terminals in the Coastal Zone, Paul D. Cribbins, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1015-1031.

Terminology
Modeling Hydraulic Phenomena: A Glossary of Terms,
ASCE Task Committee on Glossary of Hydraulic Modeling Terms of the Committee on Research of the Hydraulics Division, (J. W. Kamphuis, chmn.), HY July 82, p845-852.

Test equipment

Displacements and Strains Around Probes in Sand, John L. Davidson and Alireza Boghrat, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p181-202.
The LPC Pressiopenetrometer. François J. Baquelin

and Jean-Francois Jezequel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p203-219.

Test procedure

In Situ Tests and their Application in Offshore Design, Jean-Louis Briaud and Barry Meyer, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p244-266.

Test procedures

Innovations Cut Costs of a Power Plant's Water System, R. Paul Narong and Joseph Funston, CE

July 83, p46-49.

The LPC Pressiopenetrometer, François J. Baquelin and Jean-Francois Jezequel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p203-219.

Local and Overall Buckling of Welded Box Columns, Tsutomu Usami and Yushsi Fukumoto, ST March 82, p525-542.

Thailand Thailand Peace Corps Seeks Advice (ltr.), Heidi Pfeiffer, CE June 83, p26.

Thawing
Thaw Settlement Analysis for Buried Pipelines in Permafrost, Kenneth J. Nyman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p300-325.

Thermal energy

Thermal Storage, Now and Future, CE Dec. 83, p42-45. Thermal factors

Thermal Dependent Physical Properties of Water, Richard J. Heggen, HY Feb. 83, p298-302. Thermal Impact Studies for French Coastal Nuclear Sites, Y. Coeffe, P. M. Clique and B. Manoha,

(Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2342-2356.

Thermal gradient

Transient Thermal Behavior of Composite Bridges, Carl Berwanger, ST Oct. 83, p2325-2339.

Thermal pollution

Nestrom, George E. Hecker and Han C. Moy, HY Nov. 81, p1371-1406.

Thermal properties
Cooling Curve Prediction of Asphaltic Concrete, R.
Kenneth Wolfe, George L. Heath and David C.
Colony, TE Jan. 83, p.137-147.
Thermal Dependent Physical Properties of Water,
Richard J. Heggen, HY Feb. 83, p.298-302.

Thermal stratification

Simulating Advective Transport in Reservoirs, Mark S. Dortch and William L. Boyt, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p21-26.

Thermal stresses

Analysis of Concrete Pavement Blowups, Arnold D. Kerr and Patrick J. Shade, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p730-733.

Random Thermal Stresses by Finite Elements, M. P. Singh, T. Kuppusamy and R. A. Heller, (Recent Advances in Engineering Mechanics and Their Impact

on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p652-655.

Temperature Variations in Concrete Bridges, Mamdouh M. Elbadry and Amin Ghali, ST Oct. 83, p2355-2374.

Great Lakes Ice Dynamics Simulation, Akio Wake and Ralph R. Rumer, Jr., WW Feb. 83, p86-102.

Thin shell structures

Simulation of Collapse Loads for Arbitrary Shells, Wilfried B. Kratzig and Udo Wittek, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1087-1090.

Study of Numerical Efficiency on Nonlinear Analysis

of Thin Shells, K. Sawamiphakdi and T. Y. Chang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p668-678.

Three dimensional flow

Dispersion in Three Dimensions: Approximate Analytic Solutions, Budhi Sagar, HY Jan. 82, p47-62.

Three-dimensional analysis
Comparison of 2-D and 3-D Dynamic Analyses of
Earth Dams, Lelio H. Mejia and H. Bolton Seed, GT

Nov. 83, p1383-1398. Computer Graphic Boundary Element Analysis, Renato Perucchio and Anthony R. Ingraffea, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p422-435.

Computer Graphics for 3D Structural Analysis, John F. Abel, William McGuire and Anthony R. Ingraffea, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p594-607.

Corrected Field Vane Strength for Embankment Design, Amr S. Azzouz, Mohsen M. Baligh and Charles C. Ladd, GT May 83, p.730-734. Interactive Specification of Partial Warping Restraint,

Yeong-Bin Yang and William McGuire, (Recent Advances in Engineering Mechanics and Their Impact Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p118-121. Loaded Areas on Cohesive Slopes, Amr S. Azzouz and Mohsen M. Baligh, GT May 83, p724-729. Three-Dimensional Non-Linear Analysis, Joaquin

Marti, Gurdip S. Kalsi and Naval K. Prinja, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p372-375.

Three-Dimensional Stress Analysis of Dams Founded on Faulted Rocks, D. K. Sehgal, R. Natarajan and S. M. A. Kazimi, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed.,

1983), p37-49.

Three-dimensional flow
Analysis of Three-Dimensional Flows Around Kinks in Toned and Leaky Porous Media, O. Lafe, A. Adenekan and H. Johnson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1170-1173.

Computation of 3-D Flow and Shear in Open Channels, Chao-Line Chiu and Gwo-Fong Lin, HY Nov. 83,

A Reynolds Stress Measurement Technique for Complex Flows, F. B. Gessner and S. H. Arterberry, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1303-1306.

Circulation Induced by Tidal Jets, Prakash Joshi and E. Bruce Taylor, WW Nov. 83, p445-464.

Harmonic Finite Element Model of Tidal Circulation

for Small Bays, J. J. Westerink, J. J. Connor and K. D. Stolzenbach, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p170-175.
Linearized Solution to Inlet Equation with Inertia,
Todd L. Walton, Jr. and Francis F. Escoffier, WW

Aug. 81, p191-195. Modeling Tidal Circulation in Coastal Seas, Malcolm L. Spaulding and Charles H. Beauchamp, HY Jan. 83, p116-132.

A New Two Dimensional Tidal Modelling System, J. P. Benque, M. I. Chenin, A. Hauguel and S. Schwartz, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p582-597.

NOAA/NOS Methods of Tidal Current Predictions,

NOAA/NOS Methods of Tidal Current Predictions, Elmo E. Long, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1168-1177. Numerical Model Study of Temperature Distributions in a Harbour, Roger A. Falconer, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p454-472. Numerical Modeling Study of Lake Pontchartrain, Glenn D. Hamilton, Cecil W. Soileau and Arthur Stroud, WW Feb. 82, p49-64. Sensitivity of Parameters and Approximations in Models of Tidal Propagation and Circulation, Jan J. Leendertse and Shiao-Kung Liu, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p573-581. Simulation of Large-Scale Circulation in Harbors,

Simulation of Large-Scale Circulation in Harbors, Wen-Li Chiang and Jiin-Jen Lee, WW Feb. 82,

p17-31.

Tidal and Inertial Currents Around South Africa, E. H. Schumann and L. -A. Perrins, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2562-2580.

Engineering 82, Billy L. Edge, ed., 1963), p.2502-2580. Tidal Computation on Taiwan Strait, Fuh Yin and Sen-Ho Chen, WW Nov. 82, p.539-553. Tridimensional Numerical Model for Tidal and Wind Generated Flow, M. C. Burg, A. Warluzel and Y. Coeffe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p635-651.

Tidal effects

Linearized Tidal Friction in Uniform Embayments, David William Ostendorf, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p590.
Tidal Erosional Effects on a Bulkhead System, Ronald M. Noble, Wolfgang H. Roth and Uday K. Patil, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2204-2215.

Circulation and Transport Phenomena in Kuwait Bay, Charles H. Beauchamp and Paul H. Blinco, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p176-181.

Two-dimensional Transient Behavior of Estuarine Salinity, Carl F. Cerco and Albert Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p375-379.

Kenai, Alaska, Outfall Crosses Tidal Flat, Loren D. Leman and Vince W. Rybel, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p573-578.

Morphological Reactions of Tidal Systems Due to Nearshore Construction Works, R. Dieckmann, H. W. Partenscky and H. Schwarze, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2494-2503.

Tidal hydraulics

Boundary Conditions in Limited Area Simulation of Tidal Rivers, John P. Glass, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p324-329. Long-Term Salinity Calculations in Delaware Estuary,

M. Llewellyn Thatcher and Donald R. F. Harleman,

EE Feb. 81, p11-27. Movable-Bed Tidal Inlet Model, Subhash C. Jain, WW Aug. 82, p326-342.

Simulation of Large-Scale Circulation in Harbors, Wen-Li Chiang and Jiin-Jen Lee, WW Feb. 82, p17-31.

Tidal power plants
Transnational Legal Issues and Fundy Tidal Power,
Robert W. Rudolph and Peter F. Larsen, (Coastal
Zone '83, Orville T. Magoon, et al, eds., 1983), p817-828.

Tidal waters

Modeling Tidal Circulation in Coastal Seas, Malcolm L. Spaulding and Charles H. Beauchamp, HY Jan. 83, p116-132.

Multipurpose Gate Operation, Kazumasa Mizumura, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2534-2550.

Automated Digital Simulation of Tides & Long Waves, R. F. Henry, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p203-218. Examples of Storm Surge Prediction Models, P. Lencioni, J. P. Benque and Y. Coeffe, (Proceedings of

Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), 982-831.

Parallel Canal Design for Waterfront Development, Frederick W. Morris, IV, Richard S. Tomasello, Damodar S. Airan and Nathan Putchat, EE Feb. 83, p206-218

Pass Cavallo, Texas: Case Study of Tidal-Prism Capture, George H. Ward, Jr., WW Nov. 82,

p513-525.

Residence Time: Application to Small Boat Basins, Jacobus van de Kreeke, WW Nov. 83, p416-428. State of the Art in Tide Predictions, B. D. Zetler, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p192-202.

Tidal Corrections in Hydrographic Surveying, Carvel Blair, WW Feb. 83, p31-40.

Tieback restraint systems

Tiebacks for Waterfront Bulkheads, Brandl Ernest D., John S. Davis and Robert C. Houghton, (Proceedings of Ports 83, Kong Wong, ed., 1983), p200-213.

Tied concrete columns

Analytical Model for Concrete Confinement in Tied Columns, Shamim A. Sheikh and S. M. Uzumeri, ST Dec. 82, p2703-2722.

Radial versus Parallel Tie Arrays in Earth Backfills, Donald H. Gary and James Lott, GT July 83, p982-986.

Timber construction

Bolted Wood-Joint Yield Model, Thomas E. McLain and Surot Thangjitham, ST Aug. 83, p1820-1835. Criterion for Mixed Mode Fracture in Wood, S. Mall, Joseph F. Murphy and James E. Shottafer, EM June 83, p680-690.

Design of Pressure-Treared Wood Bulkheads, James S. Graham, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p286-294. Design of Timber Beams: A Graphical Approach, Shan

Somayaji, ST Jan. 83, p271-278.

Inelastic Behavior of Built-Up Timber Compression
Members, S. K. Malhotra, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983),

p531-534. Load Capacity of Row of Shear Plate Connectors, Marie-Anne Erki and Mark W. Huggins, ST Dec. 83,

p2786-2801. Timber Bridges: State-of-the-Art, Richard M. Gutkow-ski and Thomas G. Williamson, ST Sept. 83,

p2175-2191.

Timber piles

Model Study of Elastic - Plastic Pile Foundation,

Avanti C. Shroff, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr.,

ed., 1983), p62-73. Structural Evaluation of Marine Structures, Jerry J. Agi, (Proceedings of Ports 83, Kong Wong, ed., 1983), p662-677.

Time dependence

Nonlinear Analysis of Prestressed Concrete Slabs, Johannes Van Greunen and Alexander C. Scordelis, ST July 83, p1742-1760.

Payment Timing as a Factor in Bid Evaluation, Shlomo Selinger, CO Sept. 83, p335-341. Probabilistic Load Duration Model for Live Loads, Ross B. Corotis and Wen-Yang Tsay, ST Apr. 83, p859-874.

Time-Dependent Analysis of PC Cable-Stayed Bridge M. S. Khalil, W. H. Dilger and A. Ghali, ST Aug. 83, p1980-1996.

Time factors

A Simple Question about Consolidation, John H. Schmertmann, GT Jan. 83, p119-122.

Time Impact Analysis-Forensic Scheduling, David M. Lee, (Liability in Construction Management, David M. Lee, ed., 1983), p43-55.

Time Scale for Scour Downstream of Hydraulic Jump, Javad Farhoudi and Kenneth V. H. Smith, HY Oct. 82, p1147-1162.

Use of Cost Engineering Tools to Establish Damages, James J. O'Brien, (Liability in Construction Management, David M. Lee, ed., 1983), p56-67.

Time series analysis

Time Series Analysis of Cooling Tower Wind Loading, D. Aubrey Reed and Robert H. Scanlan, ST Feb. 83, p538-554.

Tin and Microbes in the Chesapeake Bay, Joseph J. Cooney and Lawrence E. Hallas, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p864-872.

Toe aprons

Design of Toe Protection for Coastal Structures, James W. Eckert, (Coastal Structures '83, J. R. Weggel, ed., 1983), p331-341.

Toll Roads to Ease Houston Traffic, CE Dec. 83, p16.

Topographic maps

Aerial Profiling of Terrain System, Edward J. Cyran, SU Aug. 83, p136-150.

Topographic surveys

Phototriangulation with Analyatical Plotters, Armin Gruen, SU March 83, p6-13

The Three Point Resection: An Alternate Method, Roy H. King, CE April 83, p67-68.

Tornadoe

Probabilistic Analysis of Tornado Wind Risks, Lawrence A. Twisdale and William L. Dunn, ST Feb. 83, p468-488.

Tornado-Borne Missile Speed Probabilities, Emil Simiu and Martin R. Cordes, ST Jan. 83, p154-168.

Wind Loading Risks from Multivortex Tornadoes, Lawrence A. Twisdale and William L. Dunn, ST Aug. 83, p2016-2022.

Torsion

Beams with Torsional Stiffeners, Richard M. Szewczak, Erling A. Smith and John T. DeWolf, ST July 83, p1635-1647.

Collapse Loads of Nonprestressed R/C Curved Beams, M. A. Mansur and B. V. Rangan, ST Apr. 83,

p993-1009.

Flexural-Torsional Buckling of Curved Members, Chai Hong Yoo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,

chaines and Their Impact on Civil Engineering Fractice, W. F. Chen, et al, eds., 1983), p1118-1121. Instability of Thin Walled Bars, Terence M. Roberts and Zaven G. Azizian, EM June 83, p781-794. Pure and Warping Torsion Analysis of Rigid Frames, Min-Tee Chen and Donald E. Jolissaint, Jr., ST Aug.

83, p1999-2003.

Reinforced Concrete Beams under Bending, Torsion and Shear—A Finite Element Approach, Gerhard Mehlhorn and Gunter Schmidt Gonner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983), p706-709.

Secondary Warping of Thin-Walled Beams, Toma Leko, EM Apr. 83, p639-642.

Strength Criteria for Concrete Inverted T-Girders, Sher Ali Mirza and Richard W. Furlong, ST Aug. 83, p1836-1853.

Torsion of a Rectangular Bar with Two Circular Holes, Amir K. Naghdi, EM Apr. 83, p643-648. Torsion Tests of R/C Beams with Large Openings, Mohammad A. Mansur, Seng Kiong Ting and

Seng-Lip Lee, ST Aug. 83, p1780-1791.

Torsional Behavior of Model Piles in Sand, R. N. Dutt and M. W. O'Neill, (Geotechnical Practice in Offshore and M. W. O Neill, (Geolecanical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p315-334. Ultimate Torque of R/C Beams with Large Openings,

Mohammad A. Mansur, Seng Kiong Ting and Seng-Lip Lee, ST Aug. 83, p1887-1902.

Yield Surface for Thin Bars with Warping Restraint,

Raymond P. Daddazio, Maciej P. Bieniek and Frank DiMaggio, EM Apr. 83, p450-465.

Torsional coupling
Torsional Coupling and Earthquake Response of
Simple Elastic and Inelastic Systems, Christopher L.
Kan and Anil K. Chopra, ST Aug. 81, p1569-1588.

Torsional oscillations

Stiffener Effects on Torsional Buckling of Columns, Sven Eilif Svensson and Carsten Munk Plum. ST March 83, p758-772.

Torsional vibration

Nonlinear Free Vibrations of Suspension Bridges: Theory, Ahmed M. Abdel-Ghaffar and Lawrence I. Rubin, EM Feb. 83, p313-329.

Nonlinear Free Vibrations of Suspension Bridges: Application, Ahmed M. Abdel-Ghaffar and Law-rence I. Rubin, EM Feb. 83, p330-345.

Tort laws

The CM's Liability to Other Parties—Negligence, Robert J. Smith, (Liability in Construction Management, David M. Lee, ed., 1983), p30-37.

Toxic Torts, Jerry Ross, (Emerging Energy/Environ-mental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p11-14.

Tourism

Sport Divers and Their Preferred Coastal Settings, Mick R. E. Matheusik and Allan S. Mills, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1488-1506.

Guyed Tower with Dynamic Mooring Properties, Denby Grey Morrison, ST Nov. 83, p2578-2590.

Toxic waste disposal Army Plans Toxic Containment at Rocky Mountain Arsenal, CE June 83, p8. List of Nation's Toxic Dumps Released, CE Feb. 83

The Role of the Port within the Logistical System Supporting Incinerator Ships, Henry S. Marcus, (Proceedings of Ports 83, Kong Wong, ed., 1983), p1-14.

Toxic wastes

California and EPA Hazardous Waste Regulations, Ronald M. Block and Robert M. Kennedy, El Jan. 83, p10-17.

Congressional Report Finds Toxic Waste Regs Lacking, CE June 83, p10.

A Multidisciplinary Approach to Assessing Pollution in Coastal Waters, Edward R. Long, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p163-178.

OMB Outlines Rules for Toxic Wastes on Federal Sites,

CE July 83, p8. Prevention of Acid Drainage from Stored Coal, Harvey

Olem, Tracey L. Bell and Jeffery J. Longaker, EY June 83, p103-112. US Offers to Buy Dioxin-Contaminated Town, CE

April 83, p10. Zilwaukee Bridge Fill Contains Toxic Wastes, CE Dec.

83

INT-Reduction Assays and Control of Sludge Bulking, Charles Logue, Ben Koopman and Gabriel Bitton, EE Aug. 83, p915-923.

Traffic assignment
Optimal Signal Settings over Transportation Networks,
Yosef Sheffi and Warren B. Powell, TE Nov. 83, p824-839.

Traffic control

Bus Priority Strategy: Justification and Environmental Aspects, A. Essam Radwan and David A. Benevelli, TE Jan. 83, p88-106.

Implementing Effective Traffic Control Plans in Construction Zones, Harold R. Hofener, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p106-112.

Red Turn Arrow: Safety Analysis, Errol C. Noel, TE

May 83, p440-449.

Traffic Control at Freeway Work Sites, Zoltan Nemeth and Nagui M. Rouphail, TE Jan. 83, p1-15.

Traffic control devices

Red Turn Arrow: Safety Analysis, Errol C. Noel, TE

May 83, p440-449.

Traffic Signal Maintenance Requirements, Walter H.

Kraft and J. Robert Doughty, TE May 83, p471-478.

Traffic engineering Evolution of Highway Safety Legislation, James E. Wilson, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p3-13.

Traffic flow

Bus Priority Strategy: Justification and Environmental Aspects, A. Essam Radwan and David A. Benevelli, TE Jan. 83, p88-106.

Bus Stop Location and Design, Michael J. Demetsky and Brian Bin-Mau Lin, TE July 82, p313-327. Impact Study of Bus Lanes in Bangkok, Yordphol Tanaboriboon and Surasak Toonim, TE March 83,

p247-256.

Optimal Signal Settings over Transportation Networks, Yosef Sheffi and Warren B. Powell, TE Nov. 83, p824-839.

Traffic Planning for Edens Reconstruction Project, Sigmund C. Ziejewski, TE Jan. 83, p159-171. Variance of Vehicle Change Intervals, Martin G.

Buehler, TE Nov. 83, p871-875.

Visual Intrusion Impact of Residential Traffic, Gerald R. Brown and Donald F. Park, TE Sept. 82,

p468-483.

Traffic management
Estimation of Left-Turn Traffic Parameters, Feng-Bor Lin and Theodore T. Nadratowski, TE May 83, p347-362.

Night Delivery: Institutional Restraints, Errol C. Noel, UP May 83, p44-49.

Parking Policy and Downtown Economic Develop-ment, Michael D. Meyer and Mary McShane, UP May 83, p27-43. Urban Traffic Problems Covered at California Con-

ference, Laura Steinman and Barbara Tritel, CE April 83, p14-16.

Visual Intrusion Impact of Residential Traffic, Gerald R. Brown and Donald F. Park, TE Sept. 82, p468-483.

Traffic models

Forecasting Intersection Traffic Volumes, Martin G. Buehler, TE July 83, p519-533.

Modeling of Steel Tube Vehicular Crash Cushion, John F. Carney, III, Chris D. Austin and Steven R. Reid, TE May 83, p331-346.
Proceedings of the Conference on the Role of the Civil

Engineer in Highway Safety, Martin E. Lipinski, ed., 1983, 207pp.

Red Turn Arrow: Safety Analysis, Errol C. Noel, TE

May 83, p440-449. Traffic Control at Freeway Work Sites, Zoltan A Nemeth and Nagui M. Rouphail, TE Jan. 83, p1-15.

Traffic signals
Additional Through Lanes at Signalized Intersections,
David L. Guell, TE July 83, p499-505.
Optimal Signal Settings over Transportation Networks,
Yosef Sheffi and Warren B. Powell, TE Nov. 83, p824-839

Red Turn Arrow: Safety Analysis, Errol C. Noel, TE

May 83, p440-449.
Traffic Signal Maintenance Requirements, Walter H.
Kraft and J. Robert Doughty, TE May 83, p471-478.
Variance of Vehicle Change Intervals, Martin G. Buehler, TE Nov. 83, p871-875.

Traffic volume

Estimating Trip Rates from Traffic Counts, Edward S.

Neumann, John Halkias and Mervat Elrazaz, TE July 83, p565-578

Forecasting Intersection Traffic Volumes, Martin G. Buehler, TE July 83, p519-533.

Night Delivery: Institutional Restraints, Errol C. Noel, UP May 83, p44-49.

Toll Roads to Ease Houston Traffic, CE Dec. 83, p16.

Training
Better Trained Construction Supers Would Boost
Productivity, CE Apr. 83, p60-62.

Fast Track Methods for Management Development, Melville Hensey, El July 83, p223-228.

Schwarz-Christoffel Theory of Flow Past an Opening, Cheng-lung Chen and Ming-Yang Su, EM April 82, p399-418.

Transient flor

Centrifugal Modeling of Transient Water Flow, Kenneth W. Cargill and Hon-Yim Ko, GT Apr. 83,

Computational Extensions to Implicit Routing Models, Danny L. Fread, (Frontiers in Hydraulic Engineering,

Hung Tao Shen, ed., 1983), p343-348. Higher-Order Accurate Numerical Methods for Transient-Flow Analysis, M. Hanif Chaudhry and Robert J. Fennema, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p587.

The Microcomputer and Pipeline Transients, E. Ben-jamin Wylie, HY Dec. 83, p1723-1739.

Transient Cavitating Pipe Flow, Victor L. Streeter, HY Nov. 83, p1407-1423.

Transient loads

Response of Anaerobic Filters to Transient Loadings, Mohamed F. Dahab and James C. Young, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p272-279.

Transient Load Modeling: Clipped Normal Processes,

Ove Ditlevsen and Henrik O. Madsen, EM Apr. 83,

p494-515.

Transient Stress Analysis of High Energy Gas Fracture Experiments, E. P. Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p415-418.

Paris-416.

Translent response
Computational Methods for Analysis of Transient
Response, Ted Belytschko, Wing-Kam Liu and
Patrick Smolinski, (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al, eds., 1983), p1-17.
Markov Approximation to Transient Vibration, Polychronis-T. D. Spanos and George P. Solomos, EM

Aug. 83, p1134-1150.

Nonlinear Transient Response of Deep—Ocean Pipeline, M. Zimmerman, J. Leonard, J. Tedesco, R. Hudspeth and L. Borgman, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p722-736. Stationary and Transient Response Envelopes, Steen Krenk, Henrik O. Madsen and Peter H. Madsen, EM

Feb. 83, p263-278.

Stationary and Transient Response Statistics, Peter H. Madsen and Steen Krenk, EM Aug. 82, p622-635. Steady-State and Transient Responses of Linear Structures, Anestis S. Veletsos and Ashok Kumar, EM Oct. 83, p1215-1230.

Steady-State and Transient Responses of Linear Struc-tures, A. S. Veletsos and Ashok Kumar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p212-213.

Transit systems

Bus Maintenance Planning with Computer Simulation, T. H. Maze, George C. Jackson and Utpal Dutta, TE May 83, p389-342.

May 83, p.365-342.

Bus Stop Location and Design, Michael J. Demetsky and Brian Bin-Mau Lin, TE July 82, p.313-327.

Develping Bus Operating Cost Models: A Methodology, Reggie J. Caudill, Richard A. Kaplan and Anne Taylor-Harris, TE March 83, p.273-285.

Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983, 103pp.
Optimization of Zonal Transit Service, Shou-min Tsao
and Paul Schonfeld, TE March 83, p257-272.

Predicting Transit Ridership in Response to Transit Service Changes, Frank S. Koppelman, TE July 83,

Transit Performance Evaluation Model, Richard P. Guenthner and Kumares C. Sinha, TE July 82, p343-361.

Underground Transit Station Construction in Japan, Boyd C. Paulson, CO March 82, p23-37.

Advisory Notes on Lifeline Earthquake Engineering, The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (Wil-

liam J. Hall, chmn.), 1983, 232pp.

A Helical Tape on Cylinder Subjected to Bending,
William R. Spillers, Edward D. Eich, Allan N. Greenwood and Russell Eaton, EM Aug. 83, p1124-

207

Reliability Design of Transmission Lines for Wind, H. Scott Norville, Kishor C. Mehta and W. Pennington Vann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F.

Chen, et al, eds., 1983), p887-890.
Reliability-Based Design of Wood Transmission Line
Structures, James R. Goodman, M. Daniel Vanderbilt and Marvin E. Criswell, ST March 83, p690-704.

Circulation and Transport Phenomena in Kuwait Bay, Charles H. Beauchamp and Paul H. Blinco, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p176-181.

Transport rate
Bed Load Transport of Fine Sand by Laminar and Turbulent Flow, Anthony J. Grass and Ragaei N. M. Ayoub, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1589-1599.

Blench Equilibrium Parameters: Supplementary Data, Walter H. Graf, Huu Hai Cao and James C. Bathurst,

HY Oct. 83, p1369-1374.

Model Tests on Littoral Sand Transport Rate, J. W. Kamphuis and O. F. S. J. Sayao, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1305-1325.

Resistance to Flow in Alluvial Channels, Gerd Holtorff, HY Sept. 82, p1010-1028.

Sediment Transport under Sheet Flow Condition, Kiyoshi Horikawa, Akira Watan be and Sadakazu

Kylosh Horikawa, Akifa watan be and Sadakaya. Kalon, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1335-1352.
Study on Sediment Transport in a Power Station Harbor Basin, Kohki Maruyama, Ryoichi Kajima, Akio Narihiro and Kosuke Kondo, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2357-2375.

Transportation

Accessible Public Transit Alternatives, Robert L. Smith, Jr., TE Jan. 83, p16-32.

Experimental Facilities at the UK Transport & Road Research Laboratory (TRRL), G. Margason, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p605-608.

Highways, Transport, and Energy: A Look Ahead, Herbert S. Levinson, TE Sept. 82, p447-456.

Transportation corridors
The Need for Guidelines for the Joint Occupancy of Utility and Pipeline Corridors, Walfred E. Hensala, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p415-419.

Transportation engineering Houston Moves to Unravel Traffic, Merja Lehtinen, CE

Nov. 82, p60-63.
Technology Transfer - Is it Being Done? Raymond K.
Moore, (*The Role of the Civil Engineer in Highway Safety*, Martin E. Lipinski, ed., 1983), p92-102.

Transportation management

Houston Moves to Unravel Traffic, Merja Lehtinen, CE Nov. 82, p60-63.

Managing for the Eighties, Walter J. Addison, (Manmanaging for the Eightes, waiter J. Addison, (managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p94-99.

Managing Limited Transportation Resources in Penn-

sylvania's Department of Transportation, James I.

sylvana's Department of Transportation, James 1. Scheiner, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p89-93. Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983, 103pp. Safety Considerations and TSM, Samuel I. Schwartz and Richard A. Retting, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1083), a121-120 1983), p121-129.

Transportation Brokerage in a Bi-State Area, Stewart A. Nelson, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p22-31.

Transportation models
Systematic Calibration of Multinomial Logit Models. Snehamay Khasnabis, Michael J. Cynecki and Mark A. Flak, TE March 83, p209-231.

Transit Performance Evaluation Model, Richard P. Guenthner and Kumares C. Sinha, TE July 82. p343-361.

Transportation networks

Advisory Notes on Lifeline Earthquake Engineering.
The Technical Committees of the ASCE Technical
Council on Lifeline Earthquake Engineering, (William J. Hall, chmn.), 1983, 232pp.

Transportation planning Carpool Assignment Technique Application, William W. Mann, TE May 83, p380-388

w. Maili, 1E may 53, p500-505.

Discussion of the San Francisco Bay Area Seaport Plan,
Dennis R. Fay, (Casstal Zone '83, Orville T. Magoon,
et al., eds., 1983), p273-286.

Optimization of Zonal Transit Service, Shou-min Tsao

and Paul Schonfeld, TE March 83, p257-272 Planning Railway Construction, Alfred E. Fazio, Robert N. Fazio and E. K. Tryon, TE Jan. 83,

p73-87. Policy Analysis Implications of Four Cogent Trans-

portation Topics, Yupo Chan, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p32-53.

Strategic Planning for a National Waterways System, Arlene L. Dietz, WR Jan. 83, p1-12.

Systematic Calibration of Multinomial Logit Models, Snehamay Khasnabis, Michael J. Cynecki and Mark A. Flak, TE March 83, p209-231.

Transferabilities of Urban Travel Demand Models, Fong-Lieh Ou and Jason C. Yu, TE July 83, p579-595.

Transportation Brokerage in a Bi-State Area, Stewart A. Nelson, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p22-31.

Transportation pricing

A Market Pricing Approach to Fares, Michael Grovak, (Managing Urban Transportation with Limited Re-sources, Tom K. Ryden, ed., 1983), p72-78.

Transit Fare and Marketing Innovations to Increase Revenue, Richard L. Oram, (Managing Urban Transortation with Limited Resources, Tom K. Ryden, ed., 1983), p79-88.

Transportation studies

Energy Efficiency of Arctic Transportation Systems, Derek M. Sherman and Edwin M. Rhoads, EY Dec. 83, p236-246.
Transit Performance Evaluation Model, Richard P. Guenthner and Kumares C. Sinha, TE July 82,

p343-361.

Transportation system financing

Managing for the Eighties, Walter J. Addison, (Man-

managing for the Eignites, water J. Adulsoli, (wand aging Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p94-99.
Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983, 103pp.
A Market Pricing Approach to Fares, Michael Grovak, (Managing Urban Transportation with Limited Re-

sources, Tom K. Ryden, ed., 1983), p72-78. Transit Fare and Marketing Innovations to Increase Revenue, Richard L. Oram, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p79-88.

Waterway User Taxes: Myths, Facts, and Real Sur-prises, Richard A. Wilson, El July 83, p235-241.

Transportation systems

Safety Considerations and TSM, Samuel I. Schwartz and Richard A. Retting, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p121-129.

Transverse shear Multiple Mode Nonlinear Analysis of Circular Plates, Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123.

Transverse Shear in Multibeam Bridges, Baider Bakht, Leslie G. Jaeger and M. S. Cheung, ST Apr. 83, p936-949.

Travel demand

Estimating Trip Rates from Traffic Counts, Edward S. Neumann, John Halkias and Mervat Elrazaz, TE

Neumann, 3011 Indiana. July 83, p565-578. Predicting Transit Ridership in Response to Transit Service Changes, Frank S. Koppelman, TE July 83, p548-564.

Transferabilities of Urban Travel Demand Models, Fong-Lieh Ou and Jason C. Yu, TE July 83, p579-595.

Travel patterns

Predicting Transit Ridership in Response to Transit Service Changes, Frank S. Koppelman, TE July 83,

Trenches

Two-Equation Turbulence Model for Flow in Trenches. Ben J. Alfrink and Leo C. van Rijn, HY July 83, p941-958.

Design and Full Scale Testing of Elastomeric Bridge Bearings for Trestle and Jetty Trestle of Super Tanker Offshore Terminal, Syed I. Husain, (Proceedings of Ports 83, Kong Wong, ed., 1983), p480-494.

Triaxial compression
Complete Triaxial Stress-Strain Curves for Concrete, Shuaib H. Ahmad and Surendra P. Shah, ST April 82, p728-742.

Triaxial tasts

Repetitive Load Deformation of Cohesionless Soil, Vishnu A. Diyaljee and Gerald P. Raymond, GT Oct. 82, p1215-1229.

Complete Triaxial Stress-Strain Curves for Concrete, Shuaib H. Ahmad and Surendra P. Shah, ST April 82, p728-742.

Compression of "Free-Ends" During Triaxial Testing,

Robert W. Sarsby, Nikolas Kalteziotis and Essam H. Haddad, GT Jan. 82, p83-107. Drained Axisymmetric Loading of Reinforced Clay, Terence S. Ingold and Keith S. Miller, GT July 83, p883-898

Membrane Penetration in Triaxial Tests, K. V. Ramana and V. S. Raju, GT Feb. 82, p305-310. Piecewise Linear Yield Criteria in Invariant Form, Robert M. Haythornthwaite, EM Aug. 83, p1016-

Reinforced Clay Subject to Undrained Triaxal Loading, Terence S. Ingold, GT May 83, p738-744. Three-Dimensional Behavior of Sand with Anistropic Fabric, Hidetoshi Ochiai and Poul V. Lade, GT Oct. 83, p1313-1328.

Three-Dimensional Testing and Modeling of Ballast, R. Janardhanam and C. S. Desai, GG June 83, p783-

Trickling filters

Secondary Treatment Alternatives Attached Growth Systems, The Task Committee on Rotating Biological Contactor Water Pollution Management Committee, Environmental Engineering Division, American Society of Civil Engineers, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p910-928.

Trip forecasting

Estimating Trip Rates from Traffic Counts, Edward S. Neumann, John Halkias and Mervat Elrazaz, TE July 83, p565-578.

Tropical cyclones

Wind Turbulence over Seas in Tropical Cyclones, W. H. Melbourne and D. R. Blackman, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p370-383.

Tropical soils

Engineering Properties of Tropical Residual Soils, James K. Mitchell and Nicholas Sitar, (Engineering and Construction in Tropical and Residual Soils, Geotechnical Engineering Division, 1982), p30-57. Geological Factors Affecting Laterite Gravels, E. Krinitzsky and F. C. Townsend, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1982), p. 1973 (1993).

1983), p137-149.

Geotechnical Properties of Residual Tropical Soils, R. A. Lohnes and T. Demirel, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983),

Remote Sensing Characterization of Nigerian Soils, Samuel Uche Ejezie, Thomas D. O'Rourke and Kingsley Harrop-Williams, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p332-350.

Trucks

Effect of Oil Field Trucks on Light Pavements, John M. Mason, Jr., TE May 83, p425-439. Technique for Identifying Problem Downgrades, Ronald W. Eck, TE July 83, p604-610. Truck Suspension Models, Krishnan Kutty Kunjamboo and Colin O'Connor, TE Sept. 83, p706-720.

Double Chord RHS Trusses: Analytical Model, Faroque A. Mirza and Robert M. Korol, ST Dec. 83, p2812-2828

Inelastic Post-Buckling Analysis of Trusses, Manolis Papadrakakis, ST Sept. 83, p2129-2147.

Marine Parkway Bridge Truss Member Replacement, Robert A. Martin and Jerome S. B. Iffland, ST July 83, p1602-1616. Minimax in Structural Design, Moshe B. Fuchs, ST

May 83, p1107-1117.

Performance of Cable Trusses under Static Loads, Prem Krishna, Vijaya K. Gupta, Ashok K. Ahuja and Ashok K. Mittal, ST Jan. 82, p265-282.

Shape Optimization of Skeletal Structures: A Review,

B. H. V. Topping, ST Aug. 83, p1933-1951.
Ultimate Load Testing of Space Trusses, Lewis C.
Schmidt, Peter R. Morgan and Ariel Hanaor, ST June 82, p1324-1335.

Wave Propagation in Plane Trusses and Frames, S. Abrate and C. T. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p351-354.

Analysis of Tidal Records of the 1964 Alaskan Tsunami, Basil W. Wilson, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p765-784.

Tsunami Hazards in Coastal Zones, James R. Houston and Frank Y. Tsai, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2024-2036.

Buckling of Columns with Nonmovable Boundaries, Michael M. Bernitsas and Theodore Kokkinis, ST

Sept. 83, p2113-2128.

Creep Behavior in Noncircular Tubes, Carl E. Kurt, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p683-686.

Design of Vertical Chords in Deepwater Platform,

Shouii Toma and Wai F. Chen. ST Nov. 83. p2733-2746.

Dynamics of a Projectile in a Concentric Flexible Tube, H. L. Langhaar, A. P. Boresi, R. E. Miller and A. S. Elder, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p230-233.

Dynamics of Rigid Guns with Straight Tubes, H. L. Langhaar, A. P. Boresi, R. E. Miller and A. S. Elder,

(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p226-229.

External Pressure and Sectional Behavior of Fabricated Tubes, Shouji Toma, Wai F. Chen and Lyle D. Finn,

ST Jan. 82, p177-194.

Flexible Dams Inflated by Water, Nicholas Manville

Hitch and Rangaswami Narayanan, HY July 83, p1044-1048.

Performance of Sand-Filled Tube Shore Protection

Tuktoyaktuk, North West Territories, Canada, V. K. Shah, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1901-1913.

Post-Buckling Behavior of Tubular Beam-Columns, Shouji Toma and Wai F. Chen, ST Aug. 83, p1918-1932.

Some Interactions in Flow-Induced Motions of Tubes, A. K. Bajaj, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p193-196.
Tests on Tubular Columns with Variable End Restraint.

David A. Ross, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1134-1137. Underwater Filling of Longard Tubes, Guiseppe Sarti and John Larsen, (Coastal Structures '83, J. R

Weggel, ed., 1983), p610-618.

Tuned mass dampers
Effect of Tuned-Mass Dampers on Seismic Response, John R. Sladek and Richard E. Klingner, ST Aug. 83, p2004-2009.

Semi-Active versus Passive or Active Tuned Mass Dampers for Structural Control, Davorin Hrovat, Pinhas Barak and Michael Rabins, EM June 83,

Tunnel construction

Afloat on the China Sea, Thomas R. Kuesel, Sr., CE Feb. 83, p40-44.

Lining Tunnels: Toughest Concreting Job?, CE Nov. 83, p60-63. New Tunnel Design Cuts Project Cost by 40%, CE Nov.

83, p15-16. Seikan Tunnel, Akira Kitamura and Yuzo Takeuchi,

CO March 83, p25-38. Shallow Tunnel Reduces Impact on Community, CE Nov. 83, p19.

Shanghai Tunnel Projects Spur Construction Innova-tions, Wang Zhen Xin, CE Dec. 82, p36-38.

Tunnel linings

Lining Tunnels: Toughest Concreting Job?, CE Nov. 83, p60-63.

Tunnel supports

Ground Response Curves for Rock Tunnels, Edwin T. Brown, John W. Bray, Branko Ladanyi and Evert Hoek, GT Jan. 83, p15-39.

Tunneling

Changes in Tunneling, CE Dec. 83, p16. Compressed Air Use in Soft Ground Tunneling, Robert

J. Jenny, CO June 83, p206-213. Example Cost of 3-D FEM for Underground Openings, Charles W. Schwartz, Amr S. Azzouz and Herbert H.

Einstein, GT Sept. 82, p1186-1191.

Shanghai Tunnel Projects Spur Construction Innovations, Wang Zhen Xin, CE Dec. 82, p36-38.

Tunneling, excavation

Changes in Tunneling, CE Dec. 83, p16. Seikan Tunnel, Akira Kitamura and Yuzo Takeuchi, CO March 83, p25-38.

Subway, CE June 83, p48-49.

Tunnels

Afloat on the China Sea, Thomas R. Kuesel, Sr., CE

Feb. 83, p40-44.

Damage Mechanisms in Tunnels Subjected to Explosive Loads, Duane A. Labreche, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p128-141.

Finite Element Simulation of Tunneling over Subways, Jamshid Ghaboussi, William H. Hansmire, Harvey W. Parker and Kwang J. Kim, GT March 83,

p318-324.

Ground Response Curves for Rock Tunnels, Edwin T. Brown, John W. Bray, Branko Ladanyi and Evert Hoek, GT Jan. 83, p15-39.

Lincoln Tunnel Authority Refurbishes Aging Roadbed. CE June 83, p18.

Measured Soil Response to EPB Shield Tunneling, G. Wayne Clough, Bryan P. Sweeney and Richard J. Finno, GT Feb. 83, p131-149. New Tunnel Design Cuts Project Cost by 40%, CE Nov.

83, p15-16.

Static and Transient Viscoplastic Analysis of a Tunnel, David E. Schmitz and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p691-695.

Turbidity

Water Quality Mitigation at a Pumped Storage Plant, Alan Milton, E. Eric Adams, John H. Mason, Belmonte P. Cucolo and John W. Blake, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p516-523.

Bulk Water Flow to Power Marine Beacons, Andrew D.

Grant, EY Sept. 83, p142-151.

The Development of Nonlinear Constitutive Models for Structural Analysis of Turbine Engine Components, R. L. Thompson and T. Y. Chang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Fish Diversion Efficiency of a Traveling Screen at Hydraulic Turbines, Walter C. Mih, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p165-169.

Float-In Powerhouses, George A. Makela, EY June 83,

Phydro Recovery, CE June 83, p56-57. Ice Pond Cooling System for Power Plants, Arthur C. Miller, Jorge A. Pena, John Urbsanski and Sonja N. Kerr, EY Sept. 83, p199-206. Powerhouse, CE June 83, p46-47.

Amplification of Turbulence in Flow Approaching an Airfoil, Willy Z. Sadeh and Peter P. Sullivan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1232-1234.

Coastal Ocean Second Order Turbulence Closure and

Estuarine Numerical Modeling, George L. Mellor, Lie-Yauw Oey, Richard I. Hires and Alan Blumberg, (Frontiers in Hydraulic Engineering, Hung Tao Shen,

ed., 1983), p291.

Computation of Turbulent Flow Through Constrictions, Mohan D. Deshpande and Don P. Giddens, EM Apr. 83, p466-478.

The Decay of Turbulence in a Stratified Fluid, Robert R. Long, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), pl216-1219. Deflections of Jets by Weak Crossflows, Peter M. Steffler and Nallamuthu Rajaratnam, EM Oct. 83,

p1303-1307.

Diffusion of Turbulent Energy in a Granular Flow, Hayley Shen and Norbert L. Ackermann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1266-1269.

Diffusivity-Based Flux of Phosphorus in Onondaga Lake, Martin C. Wodka, Steven W. Effler, Charles T. Driscoll, Stephen D. Field and Steven P. Devan, EE Dec. 83, p1403-1415.

Generation and Control of Turbulence by a Pulsating Grid, B. Bienkiewicz, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1238-1241. Growth of a Grid-Generated Turbulent Mixed Layer,

Robert R. Long, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983, p. 117-1179. Internal Flow in Hydraulic Jumps, John A. McCorquodale and Abdelkawi Khalifa, HY May 83, p684-701. Is Velocity Gradient a Valid Turbulent Flocculation

Parameter? John L. Cleasby and Simon W. Freese,

(National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p811-852.

Measurements of Turbulence over Vortex-Ripple, Masaki Sawamoto, Toshihiko Yamashita and Tadashi Kitamura, (Proceedings of Coastal Engi-

neering 82, Vol. I, Billy L. Edge, ed., 1983), p282-296.
On Prediction of Characteristics for Vertical Plane
Buoyant Jets in Stably Linear Stratified Environment, Wei Li and Ching Jen Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1279-1282.

Oscillatory Model for Wall-Bounded Turbulence, Enso

Levi, EM June 83, p728-740.

Plane Turbulent Plumes in Coflowing Streams, Nallamuthu Raiaratnam and Pande B. B. Lal, EM Oct. 83.

p1299-1303.

The Role of Eddy Viscosity in a Plane Jet Impingement, Chwen-Yuan Guo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1270-1273. Sediment Suspension with Rippled Bed, Syunsuke Ikeda and Takashi Asaeda, HY March 83, p409-423. Side Discharges into Open Channels: Mathematical Model, Ayodeji O. Demuren and Wolfgang Rodi,

HY Dec. 83, p1707-1722.

Spectral Properties of Turbulence and Reynolds Stress in a Shearing Flow, Toichiro Tsubaki and Toshimitsu Komatsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1242-1245.

The Transition from a Horizontal Turbulent Buoyant Jet to a Mixing Layer: A Universal Entrainment Model, Gerhard J. Jirka, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983). p1184-1189.

Turbulence Effects on Flow Past Circular Cylinder, Kenny C. S. Kwok, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1224-1227.

Turbulence Generated by Wave Breaking on Beach, T. Sakai, Y. Inada and I. Sandanbata, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p3-21.

Turbulence Measurements Near the Free Surface in Stirred Grid Experiments, Blair H. Brumley and Gerhard H. Jirka, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1254-1257. Two-Equation Turbulence Model for Flow in Trenches,

Ben J. Alfrink and Leo C. van Rijn, HY July 83,

p941-958. Wind Turbulence over Seas in Tropical Cyclones, W. H. Melbourne and D. R. Blackman, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p370-383.

Turbulent boundary layers
Mixing Lengths for Turbulent Flow over Rough
Surfaces, Paul S. Granville, (Recent Advances in
Engineering Mechanics and Their Impact on Civil
Engineering Practice, W. F. Chen, et al, eds., 1983), p1206-1207.

Observations on the Nature and Mechanism of the Structure of Turbulent Boundary Layers. A Survey and New Results, J. M. Wallace, J. -L. Balint, J. -L. Mariaux and R. Morel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p1198-1201.

Overflow Turbulent Boundary Layer and Its Characteristics, Zaicho Liang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1208-1211.

Prediction of Turbulent Boundary-Layer Flows with k-e Closure Model by a Semi-Discretization Method, A. Liakopoulos and C. C. Hsu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1202-1205

Wind-Induced Response of Golden Gate Bridge, Hiroshi Tanaka and Alan G. Davenport, EM Feb.

83, p296-312.

Turbulent diffusion

Diffusion of Bluff Wall Jets in Finite Depth Tailwater, Nallamuthu Rajaratnam and Joseph A. Humphries, HY Nov. 83, p1471-1486. Plane Turbulent Plumes in Coflowing Streams, Nalla-

muthu Rajaratnam and Pande B. B. Lal, EM Oct. 83,

p1299-1303.

Three-Dimensional Single and Multiple Free Jets, Bidyasagar Pani and Raghunath Dash, HY Feb. 83, p254-269.

Transverse Mixing in Wide and Shallow River: Case Study, Alexander C. Demetracopoulos and Heinz G. Stefan, EE June 83, p685-699.

Turbulent flow

Aeroelastic Simulation of Bridges, Robert H. Scanlan,

ST Dec. 83, p2829-2837.
Bed Load Transport of Fine Sand by Laminar and Turbulent Flow, Anthony J. Grass and Ragaei N. M. Ayoub, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1889-1599.
Cavitation in Turbulent Shear Flows: An Overview,

Roger E. A. Arndt, (Frontiers in Hydraulic Engi-

neering, Hung Tao Shen, ed., 1983), p412.
Computation of Turbulent Flow Through Constrictions, Mohan D. Deshpande and Don P. Giddens,

tions, Mohan D. Deshpande and Don r. Giddens, EM Apr. 83, p466-478.

Depth-Integrated (k-e) Turbulence Modelling, Raymond S. Chapman, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p293-294.

Detection of Coherent Structures in Open Channel Flow, Th. Dracos and M. Bertchler, (Recent Advances to the Mohande Change).

in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1311-1314

Diffusion of Bluff Wall Jets in Finite Depth Tailwater, Nallamuthu Rajaratnam and Joseph A. Humphries,

HY Nov. 83, p1471-1486.
Dispersion in Mountainous Natural Stream, Hasa Bajraktarevic-Dobran, EE June 82, p502-514. Dispersion in Tumbling Flow, S. Beltaos, HY April 82,

p591-612.

Flow around Fixed Circular Cylinders: Fluctuating Loads, Cesar Farell, EM June 81, p565-588

Flow Near Groin-Like Structures, Nallamuthu Rajaratnam and Benjamin A. Nwachukwu, HY March 83,

p463-480

Flow Visualization and Digital Image Processing of the Velocity and Concentration Fields in Turbulent Flows, J. L. Balint, M. Ayrault and J. P. Schon, (Recent Advances in Engineering Mechanics and Their (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1246-1249. Incipient Motion of Sand Particles on Side Slopes, Syunsuke Ikeda, Hy Jan. 82, p95-114. Internal Structure and Turbulent Entrainment Char-

acteristics of the Saline Wedge, Frank E. Sargent and Gerhard H. Jirka, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p7.

Jet Injections for Optimum Mixing in Pipe Flow,

Stephen D. Fitzgerald and Edward R. Holley, HY

Oct. 81, p1179-1195.

LDV Measurements in Two-Dimensional Bent-Over Jets, H. Haniu and B. R. Ramaprian, (Recent Advances in Engineering Mechanics and Their Impact

on Civil Engineering Practice, W. F. Chen, et al, eds.,

on CVII Engineering Practice, W. F. Chen, et al, eds., 1983), p. 1299-1302.

Mixing Lengths for Turbulent Flow over Rough Surfaces, Paul S. Granville, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p. 1206 (2016). p1206-1207

Modeling of Turbulent Canopy Flow, Roger W. Burke and Keith D. Stolzenbach, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p295-300.
Oscillatory Model for Wall-Bounded Turbulence, Enso

Levi, EM June 83, p728-740.

Particle Concentration Predictions in Settling Basins, David R. Schamber and Bruce E. Larock, EE June 83, p753-764.

Progress in Turbulence Modelling and Its Applications, Ching Jen Chen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1180-1183.

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen,

ed. and A. D. M. Lewis, ed., 1983, 1326pp. Sediment Transport in Stratified Turbulent Flow, Bruce A. DeVantier and Bruce E. Larock, HY Dec. 83, p1622-1635.

Some Physical and Mathematical Checks on Turbulence Data and Models, Stanley Corrsin, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1174-1176.

A Survey of Methods to Measure Vorticity in Turbulent Flows, James M. Wallace, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1250-1253.

Suspended Sediment Profile for Ice-Covered Flows Bommanna G. Krishnappan, HY March 83, p385-399

Turbulent Flow over Undular Permeable Boundaries, R. T. Ho and L. W. Gelhar, HY May 83, p741-756. Turbulent Flow Past a Two Dimensional Prism, G.

Bergeles and N. Athanassiadis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1194-1197.

Turbulent Underflow in a Short Channel of Limited Depth, Raouf E. Baddour and Harry Abbink, HY

May 83, p722-740.

Two-Equation Turbulence Model for Flow in Trenches, Ben J. Alfrink and Leo C. van Rijn, HY July 83, p941-958.

Uniform Region of Self-Aerated Flow, Ian R. Wood, HY March 83, p447-461.

Two dimensional flow

Modeling Circulation in Depth-Averaged Flow, Victor M. Ponce and Steven B. Yabusaki, HY Nov. 81, p1501-1518.

Two-dimensional analysis

Comparison of 2-D and 3-D Dynamic Analyses of Earth Dams, Lelio H. Mejia and H. Bolton Seed, GT Nov. 83, p1383-1398.

Two-dimensional flow

Approximate Numerical Model for Stratified Flow Angelos N. Findikakis and Robert L. Street, EM

Aug. 83, p950-969.
Calibration Verification and Application of a Two-Dimensional Flow Model, D. Michael Gee, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p363-368.

Design of Aeration Devices on Hydraulic Structures, F. G. DeFazio and C. Y. Wei, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p426-431.

Distribution of Kepone in the James River Estuary, Donald J. O'Connor, John A. Mueller and Kevin J. Farley, EE Apr. 83, p396-413.

Theory and Measurements of Two-Dimensional Granular Flow, Norbert L. Ackermann and Hayley Shen, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1262-1265. Thermal Application of Leendertse's 2-D Model, Fonda Thompson and Richard M. Ecker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p584, Two-Dimensional Channel Flows over Rough Surfaces, Neil L. Coleman and Carlos V. Alonso, HY Feb. 83,

p175-188.

Two-Point Method of Dispersivity Evaluation for Tracer Tests, A. David Parr and Dennis D. Lane, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p29-34.

Waterwaves Calculation by Navier-Stokes Equations,

O. Daubert, A. Haugel and J. Cahouet, (Proceeding of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p832-845.

Wiggle Instabilities and the 2-D Preissmann Scheme, James R. Hill and David R. Basco, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p337-342.

Ultimate loads

Collapse of Plate Girders under Edge Loading, Terence M. Roberts and Chooi K. Chong, ST Aug. 81, p1503-1509.

-Shaped Column Design for Biaxial Eccentricity, L. N. Ramamurthy and T. A. Hafeez Khan, ST Aug. 83,

p1903-1917.

Reinforced Concrete Shells—Analysis vs. Design, Ajaya K. Gupta and Habibollah Akbar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p702-705.

Ultimate strength

Failure Surface of Structural Concrete Members, Cheng-Tzu Thomas Hsu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p671-682. Lateral Load Effect on Strength of Steel Arch Bridge

Structures, Tetsuya Yabuki, Sriramulu Vinnakota and Shigeru Kuranishi, ST Oct. 83, p2434-2449. Load Interaction in T-Joints of Steel Circular Hollow

Sections, Alex Stamenkovic and Keith D. Sparrow,

ST Sept. 83, p2192-2204. Non-Linear Analysis of Thin-Walled Beams, H. P. Lee, P. J. Harris and C. T. Thomas Hsu, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p404-415. Plastic Analysis of Laterally Loaded Circular Tubes, Carlos Guedes Soares and Tore H. Soreide, ST Feb.

83, p451-467.

Statistical Study on Compression Butt-Welded Plate, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, Statistical Study on Compression Flange Plates, Sadao Komatsu and Toshiyuki Kitada, ST Feb. 83, p404-

417 Statistical Study on Steel Plate Members, Sadao Komatsu and Satoshi Nara, ST Apr. 83, p977-992. Strength of Composite Beams at Web Openings, William C. Clawson and David Darwin, ST March

82, p623-641. Ultimate Load Testing of Space Trusses, Lewis C. Schmidt, Peter R. Morgan and Ariel Hanaor, ST June 82, p1324-1335.

Ultimate Strength Analysis of Curved I-Beams, Hiroshi Yoshida and Kouji Maegawa, EM Feb. 83, p192-214. Ultimate Strength Formula for Steel Arches, Tatsuro Sakimoto and Sadao Komatsu, ST March 83, p613-627.

Ultimate strength design

Wave-Induced Slides in South Pass Block 70, Mississippi Delta, Robert G. Bea, Stephen G. Wright, Partha Sircar and Alan W. Niedoroda, GT Apr. 83, p619-644.

Ultrasonic testing Determination of Concrete Strengths Using Ultrasonic Waves, Leonid Millstein and Gajanan M. Sabnis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p561-564.

Ultrasonic Doppler Velocimetry in Muddy Flows, He

Renjie, Wang Sujun and Li Xingzhi, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1283-1286.

Young's Modulus of Subcoal Strata by Ultrasonic Testing, Steven M. Tillman, GT May 83, p747-751.

Ultraviolet radiation

Oxyphotolytic Destruction of Trihalomethane in Water, Calvin P. C. Poon, Vicki A. Strikler, Michael J. Mulhare and Dale L. Saad, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p450-455.

Uncertainty principles
Approximate Error Bounds for Simulated Hydrographs, David C. Garen and Stephen J. Burges, HY
Nov. 81, p1519-1534.

Undergraduate education

Report Shows Engineering Enrollment Rise, CE Dec. 83, p10.

Undergraduate study

Management of Small and Medium Sized Civil Engineering Firms, C. Kenneth Giberson, El Jan. 83, p18-20.

Underground conduits

Seismic Response of Buried Pipes and Structural Components, Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear Structures and Materials, 1983, 56pp.

Underground construction Example Cost of 3-D FEM for Underground Openings. Charles W. Schwartz, Amr S. Azzouz and Herbert H. Einstein, GT Sept. 82, p1186-1191.

Shanghai Tunnel Projects Spur Construction Innova-tions, Wang Zhen Xin, CE Dec. 82, p36-38. Stress and Fracture Analysis of Underground Open-ings, T. Y. Chang, X. L. Zhang, S. P. Yang and G. Z. Gu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p696-701. Underground, CE June 83, p34-37. Underground Transit Station Construction in Japan,

Boyd C. Paulson, CO March 82, p23-37.

Underground storage

In-Ground Storage Area Completed for Syn-Fuel Plant, CE June 83, p16.

Nuclear Wastes Stored Below Ground in Sweden, CE Dec. 83, p14. Thermal Storage, Now and Future, CE Dec. 83, p42-45.

Underground structures
Design of Underground Protective Structures, Felix S.
Wong and Paul Weidlinger, ST Aug. 83, p1972-1979. Dynamic and Static Design Considerations for Under-Gabriel Fernandez, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p157-197. Four Buildings Cited for Energy-Efficient Design, CE

Jan. 83, p9-12. Seismic Design of Embankments and Caverns, Terry R.

Howard, ed., 1983, 201pp. Underground, CE June 83, p34-37.

Pipe-Jacking: State-of-the-Art in UK and Europe, T. E. Clarkson and J. C. Thomson, TE Jan. 83, p57-72.

Underpinning with Chemical Grout, W. C. Pete Parish, Wallace Hayward Baker and Robert M. Rubright, CE Aug. 83, p42-45.

Underwater construction

Coastal Applications of Side Scan Sonar, David R. Patterson and Joan Pope, (Coastal Structures '83, J. R. Weggel, ed., 1983), p902-910. Coastai Engineering and Construction in Japan, Boyd C. Paulson, Jr., WW Feb. 81, p11-26. Ductile Iron Pipe for Underwater Service, Ben C.

Helton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p347-356. Fabric Forming for Underwater Concrete, Bruce A.

Lamberton, (Coastal Structures '83, J. R. Weggel, ed.,

1983), p619-631. Pier Stabilization Eliminates Need to Reconstruct Damaged Bridge, Peter B. Tubbs, CE Nov. 83, p58-59.

Underwater Welded Dock Repairs, Richard N. Fulton, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Underwater parks
California State Parks: The Marine Program, Charles Mehlert, (Coastal Zone '83, Orville T. Magoon, et al, 1983), p1544-1549.

Sport Divers and Their Preferred Coastal Settings, Mick R. E. Matheusik and Allan S. Mills, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1488-1506. Underwater Parks—A Management Challenge, Ron Russo, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1535-1543.

Underwater pipelines

Ductile Iron Pipe for Underwater Service, Ben C. Helton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p347-335.

Marine Pipeline and Ocean Outfall Protection with Flexible Matresses, Alan D. Crowhurst, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), -2448-2458 p2448-2458.

Pipeline Stability Under Finite-Amplitude Waves, Min-Chih Huang and Robert T. Hudspeth, WW May

82, p125-145.

Underwater structures

Nearshore Bottom-Mounted OTEC Platforms and Pipes, Steve Bailey, Colin Moore and Luis Vega, (Coastal Structures '83, J. R Weggel, ed., 1983), p587-600.

Jet Injections for Optimum Mixing in Pipe Flow Stephen D. Fitzgerald and Edward R. Holley, HY

Oct. 81, p1179-1195.

On Uniform Flow Around Rough Cylinders, C. Farell, S. K. Fedeniuk and P. Moura, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1235-123

Permissible Velocity Correction Factors, Subhash C. Mehrotra, HY Feb. 83, p305-308.

Union Construction is Fighting Back, Allen Morrison, CE Sept. 83, p69-72.

Develoing Bus Operating Cost Models: A Methodology, Reggie J. Caudill, Richard A. Kaplan and Anne Taylor-Harris, TE March 83, p273-285.

Unit hydrographs

Deterministic and Probabilistic Perspectives of the PMF, Anand Prakash, (Frontiers in Hydraulic Engi-

neering, Hung Tao Shen, ed., 1983), p535-540.
Estimating Unit Hydrograph Peak Rate Factors, Richard H. McCuen and Timothy R. Bondelid, IR June 83, p238-250.

Improvement of Nonlinear Rainfall-Runoff Model Otto J. Helweg, Jaime Amorocho and Ralph H. Finch, HY July 82, p813-822.

Pragmatic Evaluation of the SCS Hydrologic Methods, Richard H. McCuen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p200-207.

Units of measurement

SI Units for Geotechnical Engineering, Committee on Definitions and Standards of the Geotechnical Division, (Marshall L. Silver, chmn.), GT Dec. 83, p1534-1538.

The Use of Round Numbers, S. O. Russell, El Oct. 83, p274-275.

Universities

Engineering Shortage (Itr.), David D. Moore, CE Jan. 83, p22.

Positive Action (Itr.), Richard H. Gallagher, CE Jan. 83, p24-25.

Unsaturated flow

Secondary Recovery of Water, B. J. Claborn, IR Dec. 83, p357-365.

Vadose Zone Permeability Tests: Steady State Results, Daniel B. Stephens and Shlomo P. Neuman, HY May

82, p640-659 Vadose Zone Permeability Tests: Unsteady Flow, Daniel B. Stephens and Shlomo P. Neuman, HY May

82, p660-677

Unsteady flow Applicability of Dam-Break Flood Wave Models, Nikolaos D. Katopodes and David R. Schamber, HY

May 83, p702-721

May 65, p. 102-121.

A Computation of Unsteady Flows Past an Airfoil with an Upward and Downward Motion, Tin-Kan Hung and Sheng-Mau Huang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1146-1149.

Difference Methods of Flow in Branch Channel, Zi-Cai Li, Ling-Jia Zhan and Hui-Li Wang, HY March 83,

The Microcomputer and Pipeline Transients, E. Ben-jamin Wylie, HY Dec. 83, p1723-1739. Modeling of Unsteady-Flow Water Temperatures, M.

Hanif Chaudhry, David E. Cass and John E. Edinger,

HY May 83, p657-669. Sewer Network Routing by Dynamic Wave Characteristics, A. Suha Sevuk and Ben Chie Yen, HY

March 82, p379-398. Transient Mixed-Flow Models for Storm Sewers, C. S. Song, James A. Cardle and Kim Sau Leung, HY Nov.

83, p1487-1504. Unsteady River Flow beneath an Ice Cover, M. G.

Unsteady River Flow beneath an Ice Cover, M. G. Ferrick and G. E. Lemieux, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p254-260. Unsteady Transport of Suspended Load at Small Concentrations, Pin-nam Lin, Juqing Huan and Xinquen Li, HY Jan. 83, p86-98. Vadose Zone Permeability Tests: Unsteady Flow, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p661-677.

82, p660-677.

Uplift pressure Piezometer Installation under Artesian Conditions, Kulbhushan L. Logani, GT Aug. 83, p1121-1125. Uplift Pressure in Crack Below Dam, Richard E. William Piezone Conditional Nicholas Situr FV Goodman, Bernard Amadei and Nicholas Sitar, EY Dec. 83, p207-221.

Uplift resistance

Uplift Resistance of Model Single Piles, K. P. R. Chaudhuri and M. V. Symons, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p335-355.

Organization, Objectives, and Present Status of Fusrap and Umtrap, Stephen S. Hart, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p310-317.

Uranium in Water (ltr.), C. Richard Cothern and William L. Lappenbusch, CE Jan. 83, p21.

Urban areas

Boston Main Drainage System 100 Years Later, Antoni J. Zelechowski and Cathy C. Greene, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p594-606.

Dorchester Rediscovered Urban Waterfront Access, Marianne C. Connolly, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p122-137. Estimating the Time of Concentration of Urban Watersheds, Richard H. McCuen, Stanley L. Wong and Walter J. Rawls, (Frontiers in Hydraulic Engi-

neering, Hung Tao Shen, ed., 1983), p547-552. Evaluation of T. Methods for Urban Watersheds, David F. Kibler and Gert Aron, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p553-558.

Magnitude and Frequency of Urban Floods in the United States, V. B. Sauer, W. O. Thomas, Jr., V. A. Stricker and K. V. Wilson, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p534.

Policies for Pipeline Safety Near Urban Areas, R. J. Allman and J. D. Dilay, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p212-237. Predicting Future Water Demand, Robert M. Clark, James A. Goodrich and James I. Gillean, EE Dec. 82.

p1248-1264.

Urban deterioration

Infrastructure Crisis: What the Media Are Saying, CE Jan. 83, p38-40.

Salvaging Cleveland, Allen Morrison, CE Nov. 82, p39-42.

Urban development Cracks in Nodes Delay New York City Convention Center at Least Six Months, CE Sept. 83, p10. Multiple-Use Conflicts in a Growing Economy, Andrew A. Dzurik, UP Sept. 83, p79-93.

Urban Runoff Quality: Information Needs, Michael B. Sonnen, TC Aug. 80, p29-40.

Wetland Regulation in California: A Review, Mary Laurel Marcus, Nona B. Dennis and Harriet L. Hill, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2725-2738.

Urban highways More Delays for New York Super Highway, CE Nov.

83, plo.
Social and Environmental Impacts: Edens Project,
Henry M. Yamanaka, TE Sept. 83, p721-732.
Traffic Planning for Edens Reconstruction Project,
Sigmund C. Ziejewski, TE Jan. 83, p159-171.

Urban Highway Financing Mechanisms and Policies, Gary E. Maring, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p54-63.

Urban planning
Arroyo Engineering in an Urban Environment, Richard
J. Heggen, UP May 83, p1-6.
Efficiency, Equity, and Drainage Design, David C.
Colony, El Apr. 83, p85-102.

Environmental Assessment of Campeau Shopping Center, Fred A. Curtis, UP Sept. 83, p63-78.
Predicting Future Water Demand, Robert M. Clark,
James A. Goodrich and James I. Gillean, EE Dec. 82,

p1248-1264. Proceedings of the Conference on Stormwater Deten-

tion Facilities, William DeGroot, ed., 1982, 431pp. Residential Water Conservation, J. Ernest Flack, WR

March 81, p85-95. Safety Considerations and TSM, Samuel I. Schwartz and Richard A. Retting, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed.,

1983), p121-129. SCS Rainfall-Runoff Model TR-55 and Proposed Revisions, Donald E. Woodward, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Urban Runoff Quality: Information Needs, Michael B. Sonnen, TC Aug. 80, p29-40. Vital Life Supports for N.Y.C. through the 20th Century, Martin Lang, UP May 83, p21-26.

Urban renewal Public Works and Unemployment: A Panel Discussion, CE Aug. 83, p46-49.
Salvaging Cleveland, Allen Morrison, CE Nov. 82, p39-42.

Annotated Bibliography on Urban Design Storms, Urban Water Resources Research Council of the American Society of Civil Engineers, 1983, 41pp. Effective Impervious Area in Urban Runoff Modeling, William M. Alley and Jack E. Veenhuis, HY Feb. 83. p313-319.

Hydraulic Resistance of Pavement Surfaces, Joseph R. Reed and David F. Kibler, TE March 83, p286-296. Nonlinear Runoff Modeling: Parameter Identification, Gilles G. Patry and Miguel A. Marino, HY June 83,

p865-880. Proceedings of the Conference on Stormwater Deten-tion Facilities, William DeGroot, ed., 1982, 431pp. Stormwater Pollution Control: Best Management Practices, E. John Finnemore, EE Oct. 82, p835-851. Transfer Function Models in Urban Runoff Fore-casting, Gilles G. Patry and Miguel A. Marino, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p578-583.

Urban transportation
Carpool Assignment Technique Application, William
W. Mann, TE May 83, p380-388.

Estimating Trip Rates from Traffic Counts, Edward S. Neumann, John Halkias and Mervat Elrazaz, TE July 83, p565-578.

House Approves DOT Appropriations, CE Aug. 83, p10.

Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983, 103pp.
Optimization of Zonal Transit Service, Shou-min Tsao
and Paul Schonfeld, TE March 83, p257-272.

Parking Policy and Downtown Economic Develop-ment, Michael D. Meyer and Mary McShane, UP May 83, p27-43.

Perceived Factors Affecting Driver Route Decisions, Manouchehr Vaziri and Tenny M. Lam, TE March 83, p297-311.

Predicting Transit Ridership in Response to Transit Service Changes, Frank S. Koppelman, TE July 83,

p548-564. Safety Considerations and TSM, Samuel I. Schwartz and Richard A. Retting, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p121-129.

Systematic Calibration of Multinomial Logit Models, Snehamay Khasnabis, Michael J. Cynecki and Mark

A. Flak, TE March 83, p209-231.

Urban Traffic Problems Covered at California Conference, Laura Steinman and Barbara Tritel, CE April 83, p14-16.

U.S. Army Corps of Engineers
Superfund and the Corps of Engineers, Stanley L. Carlock, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

Use rates

Gianelli Pushes Fee for Inland Waterway Use, CE June 83, p8.

Waterway User Taxes: Myths, Facts, and Real Surprises, Richard A. Wilson, El July 83, p235-241. User fees

Highway User Fee Boosts U.S. Economy, CE Dec. 83, p10.

Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, ed. and Richard W. Goodwin, ed., 1983, 53pp.

Management Control System San Diego Water Utilities, Richard W. King, (Improving Productivity, J. R. King Jr., ed., 1983), p89-98.

Water Quality and Waste Disposal Regulatory Trends
Affecting Utilities, James W. Lingle, (Emerging
Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p29-31.

Utility corridors

The Need for Guidelines for the Joint Occupancy of Utility and Pipeline Corridors, Walfred E. Hensala, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p415-419.
Utility Corridors for Pipeline Construction, Ralph H.

Sandmeyer, (Pipelines in Adverse Environments 11,

Mark Pickell, ed., 1983), p420-430.

Vacuum filtration

Wastewater Treatment: Sensitivity Analysis, Makram T. Suidan, F. Michael Saunders, C. Stuckey Godfrey and Harry T. Stewart, EE Feb. 83, p120-138.

Effect of Irrigated Agriculture on Groundwater, Herman Bouwer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p175-182.

Secondary Recovery of Water, B. J. Claborn, IR Dec. 83, p357-365.

Vadose Zone Permeability Tests: Steady State Results,

Daniel B. Stephens and Shlomo P. Neuman, HY May

Vadose Zone Permeability Tests: Unsteady Flow, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p660-677.

Value engineering Value Engineering (ltr.), Howard Ellegant, CE Sept. 83, p28.

Privately Funded Beach Vegetation Program, Kathryn Gooderham and Richard Workman, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p897-911.

Vehicle impact forces
Crash Resistance of Curved Thin-Walled Beams. Jacques Crouzet-Pascal, Robert Winter and Robert Gentzlinger, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice,

W. F. Chen, et al, eds., 1983), p656-659.

Modeling of Steel Tube Vehicular Crash Cushion, John
F. Carney, III, Chris D. Austin and Steven R. Reid,

TE May 83, p331-346.
Vehicle Crash Testing of Roadside Appurtenances, Jarvis D. Michie, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p72-81.

Vehicle usage
Highways, Transport, and Energy: A Look Ahead,
Herbert S. Levinson, TE Sept. 82, p447-456.
The Responsibility of the Civil Engineer to the
Drinking Driver, Hall, Thomas A., (The Role of the
Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p113-120.

Modeling of a Large-Scale Vehicle Structure, H. A. Du and C. T. Chon, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p326-336.

Vehicular traffic

Variance of Vehicle Change Intervals, Martin G. Buehler, TE Nov. 83, p871-875.

Concurrent Forward and Backscatter LDA Measurement, Tak Kee Cheung and Jeffrey R. Koseff, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1291-1294.

at, cus., 1703), p1.271-1274.
Directional Sensitivity of Hot Wire Probes, Ronald J. Adrian, Robert E. Johnson, Barclay G. Jones, Parviz. Merati and Andrew T. C. Tung, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), a 1571 1078. p1287-1290.

Evaluation of the Accuracy in Velocity Measurement in Alluvial Rivers, Tomio Asano, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1258-1261

Is Velocity Gradient a Valid Turbulent Flocculation Parameter? John L. Cleasby and Simon W. Freese, (National Conference on Environmental Engineering,

Allen Medine, et al, eds., 1983), p811-852. Velocity Measurement at a Breaking Air-Water Interface, W. Kendall Melville and Ronald J. Rapp, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1295-1298.

Three-Dimensional Single and Multiple Free Jets, Bidysasgar Pani and Raghunath Dash, HY Feb. 83, p254-269.

Velocity distribution

Main Flow Velocity in Short River Bends, H. J. de Vriend and H. J. Geldof, HY July 83, p991-1011.

Vriend and H. J. Geldot, HY July 93, p991-1011.

Measurements of Self-Aerated Flow on a Spillway, Paul R. Cain and Ian R. Wood, HY Nov. 81, p1425-1444. New Framework for Prediction of Longshore Currents, C. A. Fleming and D. H. Swart, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed.,

1983), p1640-1658.

Suspended Sediment Effect on Flow Resistance, Y.

Lam Lau, HY May 83, p757-763.
Turbulent Flow over Undular Permeable Boundaries, R. T. Ho and L. W. Gelhar, HY May 83, p741-756.
Two-Dimensional Channel Flows over Rough Surfaces, Neil L. Coleman and Carlos V. Alonso, HY Feb. 83, p175-188. Velocity Distribution in Smooth Rectangular Open

Channels, Kandula V. N. Sarma, P. Lakshminara-yana and N. S. Lakshmana Rao, HY Feb. 83,

p270-289.

Ventilation Effect of Outdoor Parameters on Indoor Air Quality, Robert T. Edgar, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

p707-714.

Indoor Aldehyde Levels in Nonoccupational Environments of a Midwestern Town, Purush K. Terkonda and Shu-Liang Liaw, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p898-903.

Vertical cylinders

Analysis of Optimal Ocean Wave Energy Conversion, Michael E. McCormick, WW May 83, p180-198. Quasi-2-D Forces on Vertical Cylinder in Waves, Peter K. Stansby, Geoffrey N. Bullock and Ian Short, WW

Feb. 83, p128-132.

Solitary Wave Diffraction around Large Cylinder, Michael de St. Q. Isaacson, WW Feb. 83, p121-127.

Uplift Pressure in Crack Below Dam, Richard E. Goodman, Bernard Amadei and Nicholas Sitar, EY Dec. 83, p207-221.

Vertical loads

Initial Pore Pressure from Vertical Surface Loads,

Jacobo Bielak, GT Sept. 82, pl167-1171.

Prediction of Vertical Earth Loads on Rigid Pipes,
Elmer L. Matyas and John B. Davis, GT Feb. 83, p190-201.

Vertical oscillations

Nonlinear Free Vibrations of Suspension Bridges: Theory, Ahmed M. Abdel-Ghaffar and Lawrence I. Rubin, EM Feb. 83, p313-329.

Nonlinear Free Vibrations of Suspension Bridges: Application, Ahmed M. Abdel-Ghaffar and Lawrence I. Rubin, EM Feb. 83, p330-345.

Vessels, ships

Measurement Techniques for Moored Ship Dynamics, J. Moes and S. G. Holroyd, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2641-2661.

Moored Ship Response in Irregular Waves, E. P. D. Mansard and B. D. Pratte, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2621-2640.

Akron Bridge Receives ASCE Award for Unique Design, CE June 83, p64-66.

Vibration

Circular First-Passage Due to Nonstationary Force, Polychronis Spanos and George Solomos, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p863-866.
Cluster Frequencies of Continuous Uniform Plates,
Bosheng Qin and Chuan C. Feng, ST Dec. 83,

p2893-2904.

Design for Pipeline Wind Vibration in Arctic Areas, Yee Kwok Lee, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p375-386.

Mark Fickeli, ed., 1963), p37-3-360.

Eigenvalues of Structures Carrying Sheets of Liquid, Werner Socdel, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p201-204. Exact Buckling and Frequency Calculations Surveyed, Frederic W. Williams and William H. Wittrick, ST

Jan. 83, p169-187.

Experimental Modal Analysis, Rudolf R. Boentgen and Stephen J. Clickner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p581-584. Free Vibration of Parabolic Cables, Anestis S. Veletsos and Georges R. Darbre, ST Feb. 83, p503-519.
Inelastic Dynamic Response of Cable Networks,
Manolis Papadrakakis, ST May 83, p1139-1154.

Lateral Dynamic Response of Constrained-Head Piles, Alvaro Velez, George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081. Multiple Mode Nonlinear Analysis of Circular Plates,

Muthukrishnan Sathyamoorthy and Meegada Eswara Prasad, EM Aug. 83, p1114-1123. The Noise and Vibration Corridor Concept Used in Siting Rail Rapid Transit Systems in Urban Areas, Carl E. Hanson, (National Conference on Environ mental Engineering, Allen Medine, et al, eds., 1983), p904-909.

Shell Elements for Cooling Tower Analysis, T. Y. Yang and Rakesh K. Kapania, EM Oct. 83, p1270-1289. Spline Function Method in Vibration Problems, Luo

Songfa, Zhang Daming and Wu Zhangzhu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p255-258.

Study on Vibration of Framed Machine Foundation, Zhang Daming, Ma Zesheng, Lin Weisong, Wu Zhangzhu and Wei Yuan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p519-522.

p519-522.

Technique for Estimating Natural Frequencies, Robert Schmidt, EM Apr. 83, p654-657.

Thermal Effects on Vibration of Elliptical Plates, Muthukrishnan Sathyamoorthy, (Recent Advances in Engineering Processing W. F. Chen, et al. eds. 1983). Engineering Practice, W. F. Chen, et al, eds., 1983), p251-254.

Wind-Induced Response of Golden Gate Bridge,

Hiroshi Tanaka and Alan G. Davenport, EM Feb.

83, p296-312.

Vibration analysis

Dynamic Response of a Multilayer Bimodulus Beam,
A. A. Sarhangnezhad and V. I. Weingarten, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p467-479.

Free Vibration Analysis of Cyclically Symmetric Structures Using Finite Element Techniques, Shen-Yu Lien, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p480-489.

ibration control

Control of Vibrating Structures, Wang Dian-Fu, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p327-330.

Vibration damping
Semi-Active versus Passive or Active Tuned Mass
Dampers for Structural Control, Davorin Hrovat, Pinhas Barak and Michael Rabins, EM June 83, p691-705.

Vibration effects

Dynamic Analysis of Light Equipment in Structures: Modal Properties of the Combined System, Jerome L. Sackman, Armen Der Kiureghian and Bahram

Nour-Omid, EM Feb. 83, p73-89.

Dynamic Analysis of Light Equipment in Structures:
Response to Stochastic Input, Armen Der Kiureghian, Jerome L. Sackman and Bahram Nour-Omid, EM Feb. 83, p90-110.

Optimal Grillage Layout for Given Natural Frequency, Niels Olhoff and George I. N. Rozvany, EM Oct. 82,

p971-975.

Vibration of Asymetrical Building-Foundation Systems, Thambirajah Balendra, Chan Weng Tat and Seng-Lip Lee, EM Apr. 83, p430-449.

Vibration response
Lateral Earthquake Response of Suspension Bridges,
Ahmed M. Abdel-Ghaffar and Lawrence T. Rubin,

ST March 83, p664-675.

Scouring Induced Vibrations on Sub-Sea Pipelines, Amit B. Ghosh and Louis M. Laushey, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Chlorine Inactivation of a DNA-Containing Enteric Virus, C. C. Churn, G. D. Boardman and R. C. Bates, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p426-432. Confirmed Viruses versus Unconfirmed Plaques in Sewage, J. J. Bertucci, S. H. Abid, C. Lue-Hing, C. S.

Clark, J. D. Fenters and K. F. Fannin, EE Apr. 83,

p351-368.

he Incidence, Monitoring, and Treatment of Viruses in Water Supply Systems, Task Committee on Viruses in Drinking Water of the Committee on Water Supply and Resources Management of the Environmental Engineering Division, 1983, 85pp.

Viscoelasticity

Dynamic Stability of Kelvin-Viscoelastic Column, G. Ahmadi and P. G. Glockner, EM Aug. 83, p990-999. Dynamic Stability of Viscoelastic Cylindrical Shells, S. Dost and P. G. Glochner, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p355-338.

On Finite Deformation of Viscoelastic Disks, William W. Feng, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p535-538. Timoshenko Beams on Linear Viscoelastic Founda-

tions, Harutoshi Kobayashi and Keiichiro Sonoda, GG June 83, p832-844.

Viscoplasticity

Static and Transient Viscoplastic Analysis of a Tunnel, David E. Schmitz and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p691-695.

Viscoplastic Fatigue Effects at Elevated Temperatures, James E. Keck and Anthony N. Palazotto, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p648-651.

Vertical Mixing in Models of Stratified Flow, Steve C. McCutcheon, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p15-20.

Approximate Numerical Model for Stratified Flow, Angelos N. Findikakis and Robert L. Street, EM Aug. 83, p950-969.

A Computation of Unsteady Flows Past an Airfoil with an Upward and Downward Motion, Tin-Kan Hung and Sheng-Mau Huang, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engi-neering Practice, W. F. Chen, et al, eds., 1983), p1146-1149.

Visual aids

Spotting Communication Static: Nonverbal Ways to Improve Oral Presentations, Hugh M. Aberman, CE June 83, p62-65.

Volatilization

Field Evaluations of Volatilization Rate Models for Land Disposal Facilities, Seong T. Hwang, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p680-689.

Gas-Film Coefficients for Streams, Ronald E. Rathbun

and Doreen Y. Tai, EE Oct. 83, p1111-1127. Uptake of Airborne PCBs by Terrestrial Plants Near the Tailwater of a Dam, Edward H. Buckley and T. James Tofflemire, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

P662-669.
Volatilization of Organic Compounds from Stream
Organic Porcen Y. Tai, EE Oct. 8. Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 82,

p973-989.

Volcanic ash

Yakima-Tieton Irrigation District Canal Repairs, Richard V. Haapala, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p141-146.

Volume chang

Comparison of FEM for Nearly Incompressible Solids, David A. Wagner and Michael G. Katona, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p459-462.

Volumetric strain
Elastic and Plastic Strain Properties of Sand, Chin-Su
Ting, GT May 82, p787-793.

Calculation of Intake Approach Flow Circulation with Two-Dimensional Finite Elements Model, Domi-nique N. Brocard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p380-385.

Model-Prototype Comparison of Free Surface Vortices,
George E. Hecker, HY Oct. 81, p1243-1259.

Orientation of Ribs in Waffle-Slab Skew Bridges, John B. Kennedy, ST March 83, p811-816.

Attitudes toward Productivity Pay Programs, Alexander Laufer and Brian E. Moore, CO March 83, p89-101.

Valis
Cracking and Shear Effects on Structural Walls, J.
Dario Aristizabal-Ochoa, ST May 83, p1267-1277.
Dynamic Response of Coupled Wall Systems, J. D.
Aristizabal-Ochoa, ST Aug. 82, p1846-1857.
Earthquake Resistant Tensile Lap Splices, J. Dario
Aristizabal-Ochoa, ST Apr. 83, p843-858.
Finite Element for Shear Walls in Multistory Frames,
William Wagner It. Dong-Guen Lee and Gargee

William Weaver, Jr., Dong-Guen Lee and George Derbalian, ST July 81, p1365-1369. Formulas for Wood Shear Walls, John T. Easley,

Mehdi Foomani and Robert H. Dodds, ST Nov. 82,

p2460-2478

An Investigation of the Stable Weight of Rubble for the Foundations of Vertical Walls under Wave Action, Yu-Cheng Li and Zi-Quang Zhong, (Coastal Struc-tures '83, J. R. Weggel, ed., 1983), p171-185. Seismic Analysis of Slender Coupled Walls, J. Dario Aristizabal-Ochoa, ST July 83, p1538-1552.

Walter level fluctuations Irregular-Grid Finite-Difference Simulation of Lake Geneva Surge, Sebastian W. Bauer and Klaus D. Schmidt, HY Oct. 83, p1285-1297.

Warpage Buckling of Beams with Concentrated Moments, Peter E. Cuk and Nicholas Sr. Trahair, ST June 83, p1387-1401.

Interactive Specification of Partial Warping Restraint, Yeong-Bin Yang and William McGuire, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), P118-121.
Yield Surface for Thin Bars with Warping Restraint,
Raymond P. Daddazio, Maciej P. Bieniek and Frank L. DiMaggio, EM Apr. 83, p450-465.

Implied Warranty, CE Dec. 83, p18. Implied Warranty, Used Home, CE Apr. 83, p22.

Evaluation of Washington State's Coastal Management Program, Maureen McCrea, (Coastal Zone Orville T. Magoon, et al, eds., 1983), p2858.

Waste disposal
Air Pollution Cleaning Wastes: Dry vs. Wet, Richard
W. Goodwin, EY Sept. 83, p131-141.
Compaction and Related Properties of Retorted Oil
Shale, Wesley G. Holtz, GT Oct. 83, p1246-1258.
Delaware Reclamation Project Features Codisposal and Energy Recovery, Pasquale S. Canzano and N. C. Vasuki, (National Conference on Environmental Engineering, Allen Medien, et al., eds., 1983), p152-157. Dilution of a Dense Vertical Jet, Wesley P. James, Ignacio Vergara and Ken Kim, EE Dec. 83, p1273-1283.

Effects of Dredging on Adjacent Waters, Charles Grimwood, EE Feb. 83, p47-65.

Emerging Energy/Environmental Trends and the En-gineer, Ronald D. Neufeld, ed. and Richard W. Goodwin, ed., 1983, 53pp.

Features of Federal Laws that Encourage Adoption of Land Application of Wastewater, Dean T. Massey,

WR Apr. 83, p121-133. Gravity Wastewater Collection Systems Optimization, A. Gupta, S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209.

Hauling Distance and Transfer Station Location, Ely Anthony R. Ouano, EE Dec. 83, pl429-1433. Hydrogeologic Models for Siting of Waste Facilities, John F. Clerici and J. Edmund Baker, *Advances in* Irrigation and Drainage, John Borrelli, ed., 1983), p90-97.

Land Treatment of Hazardous Waste, Allen Morrison,

CE June 83, p33-38.

Minnesota's Hazardous Waste Siting Criteria, Alan P. Shilepsky and Robert B. Pulford, WR Apr. 83, p165-173.

A New Approach for Siting Waste Facilities, D. L. Caputo, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

p15-18

Shallow Land Burial of Low-Level Radioactive Waste,

David Daniel, GT Jan. 83, p40-55.

Small Scale On-Site Disposal with Energy Recovery,
Brian R. Hogan, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p144-151.

Space and Schedule Considerations for Backfitting SO Removal Systems, Wayne A. Rauch, EY Sept. 83,

p192-198

Survey of Operating Hazardous Waste Facilities in Europe and North America, Steve E. Hrudey, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p210-217.
Use of Fjords for Disposal of Mine Tailing, Lee

Harding, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p32-51.

Water Quality and Waste Disposal Regulatory Trends
Affecting Utilities, James W. Lingle, (Emerging
Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p29-31.

Waste heat

Small Scale On-Site Disposal with Energy Recovery, Brian R. Hogan, (National Conference on Environ mental Engineering, Allen Medine, et al, eds., 1983), p144-151.

Waste management

Linear Programming in Hazardous Waste Manage ment, J. Jeffrey Peirce and Gordon M. Davidson, EE Oct. 82, p1014-1026.

A New Approach for Siting Waste Facilities, D. L. Caputo, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983),

p15-18.

New Ways to Solve Underground Contamination Problems, Victor R. Johnson, Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p218-222.

Waste recycling

Fly Ash Sulfur Concrete, William J. Head and Min-Fu Liao, TE May 81, p345-363.

Predicting Air Classifier Performance, J. Jeffrey Peirce, P. Aarne Vesilind and Marilyn McNabb, EY March 83, p7-16.

Pulsed-Flow Air Classification for Waste-to-Energy, Richard Ian Stessel and J. Jeffrey Peiree, EY June 83,

Waste stabilization ponds

Hydraulic Modeling for Waste Stabilization Ponds, Raymond A. Ferrara and Donald R. F. Harleman,

EE Aug. 81, p817-830.

Lagoon Effluent Polishing with Intermittent Sand Filters, Jerry S. Russell, E. Joe Middlebrooks, Ronald

F. Lewis and Edwin F. Barth, EE Dec. 83, p1333-1353

Waste treatmen

Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, Barney P. Popkin and Carl L. Brassow, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p32-35. Land Treatment of Hazardous Waste, Allen Morrison,

CE June 83, p33-38.

Linear Programming in Hazardous Waste Manag ment, J. Jeffrey Peirce and Gordon M. Davidson, EE Oct. 82, p1014-1026.

Recovery of Waste Treatment Chemicals from Fly Ash,

Janet S. Condra and John W. Smith, (National Conference on Environmental Engineering, Allen

Conference on Environmental Engineering, Alien Medine, et al, eds., 1983), p403-410.

Survey of Operating Hazardous Waste Facilities in Europe and North America, Steve E. Hrudey, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p210-217.

Waste water disposal

The San Mateo Coastside Regional Outfall, Michael A. Maggi, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p541-551.

Wastewater
Ground-Water Transport from Wastewater Infiltration,
Philip B. Bedient, Nina K. Springer, Ernesto Baca,
Tracy C. Bouvette, S. R. Hutchins and Mason B.
Tomson, EE Apr. 83, p485-501.
Pathogen Survival during Static Pile Composting of
Municipal Wastewater Sludge, Paul L. Bishop,
William R. Chesbro and Gail R. Zamarchi, (National
Conference on Environmental Engineering, Allen
Medine, et al, eds., 1983), p381-390.
Pollution Abatement for Barse Cleaning Operations.

Pollution Abatement for Barge Cleaning Operations,

Charles Lamoureux, (Proceedings of Ports 83, Kong Wong, ed., 1983), p15-21.
Wastewater Biofilms: Their Formation and Ultrastructural Characteristics, T. Taylor Eighmy, D. Maratea and Paul L. Bishop, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p247-254.

Wastewater Effluent Is Pumped Uphill and Returns Via

Aquifer, CE Nov. 83, p12.

Wastewater Field Thickness and Initial Dilution,
Robert C. Y. Koh, HY Sept. 83, p1232-1240.

Wastewater disposal Coastal Wetlands for Water Resources Management, R. Gregory Bourne and Craig H. Wolfgang, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1457-1472

Design Features and Construction Techniques for Ocean Outfall Scarborough, Maine, Richard A. Jubinville and Robert D. Arsenault, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p552-562.

spersion in Mountainous Natural Stream, Hasa Bajraktarevic-Dobran, EE June 82, p502-514.

EBDA Outfall Meets Challenges of San Francisco Bay, H. B. Tennant, D. G. Gray and O. Fenton, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983),

Evaluation of Selected Initial Dilution Models, Abu M. Z. Alam, Donald R. F. Harleman and Joseph M. Colonell, EE Feb. 82, p159-186.

Ground-Water Mounding due to On-Site Sewage Disposal, E. John Finnemore and Norman N. Hantzsche, IR June 83, p199-210.

Ocean Discharge Rules Ready, CE Feb. 83, p6. Ocean Outfall Design Treated Wastewater Discharges Peter W. Failla, Charles M. Norkis, Francis Pandullo and Philip F. Healy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p563-572.

Oxidative and Non Oxidative Ammonia Modeling, Michael D. Curtis, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983, p493-499.

Plume Dilution for Diffusers with Multiport Risers, Morton S. Isaacson, Robert C. Y. Koh and Norman

H. Brooks, HY Feb. 83, p199-220. Space Factor in Conflict Resolution in Arcata Coastal

Zone Land Use Planning, Robert A. Gearheart, George H. Allen and Frank R. Klopp, (*Coastal Zone* '83, Orville T. Magoon, et al, eds., 1983), p708-728. os, Orvine I. Magoon, et al, eds., 1983), p/08-/28. System Design of the San Francisco Ocean Outfall, Henry H. C. Lin, George J. Murphy, Yair Eisenberg and Loring E. Hanson, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p1935-1949.
The Third Wave in Water Quality Management, Robert

J. Foxen, CE April 83, p43-45.

Wastewater management
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lems? Neil S. Grigg, CE April 83, p6.
Can the Private Sector Solve Water Investment Prob-lems? Neil S. Grigg, CE April 83, p6.
Coastal Wetlands for Water Resources Management,

R. Gregory Bourne and Craig H. Wolfgang, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1457-1472.

Gravity Wastewater Collection Systems Optimization, A. Gupta, S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209.
Integrated Wastewater Management, Bhagwan R.

Kansakar and Chongrak Polprasert, EE June 83, p619-630.

poi9-030. Structuring a Small Wasteflow Management Agency, Louise B. Franklin, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1982-1990. Vital Life Supports for N.Y.C. through the 20th Century, Martin Lang, UP May 83, p21-26.

Wastewater treatment

Activated Carbon: Sorption of DOC from Wastewater, Frederick S. Cannon and Paul V. Roberts, EE Aug. 82, p766-783.

Activated Sludge: A Comparison of Oxygen and Air Systems, Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division

agement of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chmn.), 1983, 112pp.
Adsorption Isotherm Parameter Estimation, Michael W. Sweeney, William A. Melville, Boris Trgovcich and C. P. Leslie Grady, Jr., EE Oct. 82, p913-922.
Aquaculture Theory and Practice: Hercules, California,

Glen T. Daigger and David L. Richardson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p66-72.

Chemical Clarification of Dredged Material, Paul R. Schroeder and F. Douglas Shields, Jr., EE Apr. 83, p414-427.

Confirmed Viruses versus Unconfirmed Plaques in Sewage, J. J. Bertucci, S. H. Abid, C. Lue-Hing, C. S. Clark, J. D. Fenters and K. F. Fannin, EE Apr. 83, p351-368.

Disinfection with Chlorine and Chlorine Dioxide, E. Marco Aieta and Paul V. Roberts, EE Aug. 83, p783-799.

Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, Barney P. Popkin and Carl L. Brassow, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al., eds., 1983), p32-35.
From Wastewater to Drinking Water, Richard P.

Arber, CE Feb. 83, p46-49.

Full Scale Testing to Estimate Actual Plant Capacity, Timothy M. Curran, Salvatore D'Angelo and Keith C. Rice, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p585-592

Heat Loss from Rapid Infiltration Basin in Winter, Heinz G. Stefan, EE Feb. 82, p141-158. Hydraulic Regime and Activated Sludge Performance, Robert M. Sykes, EE April 82, p286-296. Lagoon Effluent Polishing with Intermittent Sand Filters, Perry S. Russell, E. Joe Middlebrooks, Ronald F. Lewis and Edwin F. Barth, EE Dec. 83, p1333-

Management of On-Site Disposal Systems: Case Study, Jerry Y. C. Huang, EE Aug. 83, p845-858.

Managing Potomac Water Quality: Evolving Approaches, Austan S. Librach, Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N. Magill, EE June 82, p562-577.
Models for Water and Reuse Wastewater Planning, Mary Schwartz and Larry W. Mays, EE Oct. 83,

p1128-1147.

Net Energy Production in Wastewater Treatment, Edward D. Wetzel and Robert L. Johnson, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p577-584. New Wastewater Process Cuts Plant Costs 60%, Stan A.

Christopher and Russel Titus, CE June 83, p39-41. Nitrogen Removal in the Overland Flow Process -Design Considerations, A. P. Kruzic, R. G. Smith and E. D. Schroeder, (National Conference on Environmental Engineering, Allen Medine, et al, eds.,

1983), p50-57.

O & M Costs and Optimal Capacity Expansion, Frank Pearson and Charles R. Scherer, EE Aug. 81,

p619-633.

Post-Audit of Lake Model Used for NPS Management, John P. Hartigan, John A. Friedman and Elizabeth Southerland, EE Dec. 83, p1354-1370. Predicting Activated Sludge Phosphorus Requirements, Clinton E. Parker and Sallye P. Jones, EE Feb. 83,

p245-249

Privatization: A Panacea for Wastewater Treatment's

Financial Woes, CE Nov. 83, p12.

Rotating Biological Contactor for Secondary Treat-ment, The Task Committee on Rotating Biological Contactor Water Pollution Management Committee, Environmental Engineering Division, American Society of Civil Engineers, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p929-968.

The San Mateo Coastside Regional Outfall, Michael A. Maggi, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p541-551.

Temperature Corrections to Rate Coefficients, R. Wane Schneiter and William J. Grenney, EE June 83,

The Third Wave in Water Quality Management, Robert

J. Foxen, CE April 83, p43-45.
Treatment of Saline Domestic Wastewater Using RBCs. Nancy E. Kinner and Paul L. Bishop, EE Aug. 82,

Waste Load Allocation Model of Heavy Metals in Flint River, Michigan, William L. Richardson, Joseph V. DePinto and Charles Delos, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p500-508

Wastewater and Air Treatment Equipment Combine to Retrofit Incinerator, CE Dec. 83, p16.

Wastewater Treatment: Sensitivity Analysis, Makram T. Suidan, F. Michael Saunders, C. Stuckey Godfrey and Harry T. Stewart, EE Feb. 83, 120-138.

Water Conserv I: No More Discharge to Surface Water, Walter R. Fritz, John J. Kincaid, Kermit L. Prime

and Michael J. Hanlon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p58-65.

Water Quality and Waste Disposal Regulatory Trends Affecting Utilities, James W. Lingle, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p29-31.

Wastewater treatment plants Privatization: A Panacea for Wastewater Treatment's Financial Woes, CE Nov. 83, p12.

From Wastewater to Drinking Water, Richard P. Arber, CE Feb. 83, p46-49.

Models for Water and Reuse Wastewater Planning, Mary Schwartz and Larry W. Mays, EE Oct. 83, p1128-1147.

Thermal Dependent Physical Properties of Water, Richard J. Heggen, HY Feb. 83, p298-302.

Water Rights Transfers and Irrigation Efficiency, James

L. Wescoat, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p385-390.

Water allocation policy
Arizona's Water Strategy: Bring More In and Restrict
Its Use, Allen Morrison, CE April 83, p46-49.
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WR July 83, p237-252.

Water Allocation Conflicts on the Canadian Prairies, Ian C. Goulter and Bruce Webb, WR Apr. 83, p147-164.

Water Reuse in Water Surplus Environment, John W. Smith and Clifton Ritter, WR July 83, p223-235.

Water chemistry

Acid Rain Model: Canopy Module, Carl W. Chen, Robert J. M. Hudson, Steven A. Gherini, J. David Dean and Robert A. Goldstein, EE June 83, p585-603.

Water circulation

Circulation and Transport Phenomena in Kuwait Bay, Charles H. Beauchamp and Paul H. Blinco, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p176-181.

Modeling Circulation in Depth-Averaged Flow, Victor M. Ponce and Steven B. Yabusaki, HY Nov. 81,

p1501-1518

Numerical Modeling Study of Lake Pontchartrain, Glenn D. Hamilton, Cecil W. Soileau and Arthur Stroud, WW Feb. 82, p49-64. Reservoir Circulation Patterns and Water Quality,

Byung R. Kim, John M. Higgins and David J. Bruggink, EE Dec. 83, p1284-1294. Vertical Circulation in Density-Stratified Reservoir, Zygmunt Meyer, HY July 82, p853-873.

Water conservation

Arizona's Water Strategy: Bring More In and Restrict Its Use, Allen Morrison, CE April 83, p46-49. Reevaluating Six Mississippi River Headwaters Lakes,

Carl W. Stephan, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p191-202.
Residential Water Conservation, J. Ernest Flack, WR March 81, p85-95.

Water Conservation and Reuse at Coal-Fired Power Plants, Frank L. Shorney, WR Oct. 83, p345-359.

Alfalfa Yield and Water Use in Commercial Fields, Robert W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p21-28

Comparison of Alfalfa Evapotranspiration Estimates, E. L. Johns, D. K. Frevert and R. W. Hill, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983),

p13-20. Daily Trends in Soil Evaporation and Plant Transpiration for Irrigated Corn, Norman L. Klocke, Dale F. Heermann and Darell G. Watts, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p55-62.

Estimating Consumptive Use on a Statewide Basis, Richard G. Allen and Charles E. Brockway, (Ad-vances in Irrigation and Drainage, John Borrelli, ed., 1983), p79-89.

Estimation of FAO Evapotranspiration Coefficients, Donald K. Frevert, Robert W. Hill and Bruce C.

Braaten, IR June 83, p265-270.

Land Application of Wastewater: Water Rights Issues,
Craig Bell, William E. Cox and Glen Fiedler, WR

Oct. 83, p287-302. National Water-Use Information Program, William B. Mann, IV, John E. Moore and Edith B. Chase, WR

Apr. 83, p186-194. Residential Water Conservation, J. Ernest Flack, WR

March 81, p85-95. Variation within Measured and Estimated Consumptive Use Requirements, Richard G. Allen and James L Wright, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p1-12.

Water content

Rate Process Parameters for Erosion and Shear, William E. Kelly, Richard M. Heavers and Gregory Gardner, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p102-106.

Water demand Arizona's Water Strategy: Bring More In and Restrict Its Use, Allen Morrison, CE April 83, p46-49. Computer Control for Irrigation-Canal System, Darell

D. Zimbelman and David D. Bedworth, IR March

83, p43-59.

Demand Management Using Disaggregated Projections, Allison Harper, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p280-286.

Interstate Transfer of Water for Coal Pipelines, Dean T. Massey, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p98-104. Modeling Water Demands of Irrigation Projects, David

R. Maidment and Paul D. Hutchinson, IR Dec. 83. p405-418.

The Peril and Opportunity in the Water States, William C. Wright, CE Nov. 83, p72-73.

Predicting Future Water Demand, Robert M. Clark, James A. Goodrich and James I. Gillean, EE Dec. 82, p1248-1264

Residential Water Conservation, J. Ernest Flack, WR

March 81, p85-95.

Salinity Reduction Impact on Irrigated Agriculture, Jim Riley and Michael J. Mickelson, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p503-513.

Water Allocation Conflicts on the Canadian Prairies, Ian C. Goulter and Bruce Webb, WR Apr. 83,

Water for Las Vegas Metropolitan Area, Donald A. Haselhoff, EE June 83, p700-712. Water Requirements and Man-Induced Climate

Change, George H. Hargreaves, IR Sept. 81, p247-

Water demands

Research Needs of Water Utilities Related to Groundwater Contamination, James F. Manwaring, (Na-tional Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p34-40.

Water depth
On the Variation of Characteristics of Two Wave Trains Crossing in Intermediate Depth, H. H. Hwung

and C. P. Tsai, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p862-886.

Ship Motions Related to Deep Draft Channel Design, Scott Noble, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2662-2680.

Water discharge

Carrying Capacity of Flood Plains, Nani G. Bhowmik and Misganaw Demissie, HY March 82, p443-452.

Computer Control for Irrigation-Canal System, Darell D. Zimbelman and David D. Bedworth, IR March

Data Automation for Water Supply Management, Robert J. Sutter, Ronald D. Carlson and Dan Lute,

WR July 83, p237-252. Ensuring Water Quality in a Distribution System, Karl B. Stinson and Keith E. Carns, EE Apr. 83, p289-304.

Bydro Recovery, CE June 83, p56-57.

Integrated Sizing of Water Storage and Conveyance, David E. Fleming, Roger K. Hanson and John W. Labadie, WR Jan. 83, p94-111.

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A. Bishop and A. K. Long, IR Dec. 83, 9349-356. Land Consolidation in Irrigation Projects, Herve L. Plusquellec, IR March 83, p99-110. Maintenance Standards for a Distribution System with

a Limited Water Supply, Lowell F. Ploss, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p154-159.

Node Flow Analysis of Water Distribution Systems, Pramod R. Bhave, TE July 81, p457-467. Optimal Diameter Selection for Pipe Networks, Ronald E. Featherstone and Karim K. El-Jumaily, HY Feb. 83, p221-234.

Optimal Layout for Branching Distribution Networks Pramod R. Bhave and Chan F. Lam, TE July 83, p534-547.

Optimization of Gravity-Fed Waste Distribution Systems: Theory, Pramod R. Bhave, EE Feb. 83. p189-205.

Optimization of Gravity-Fed Water Distribution Systems: Application, Pramod R. Bhave, EE Apr. 83, p383-395.

Polyphosphate Additions for Corrosion Control in Water Distribution Systems, Shankha K. Banerji, John T. O'Connor and David J. S. Huang, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p97-109.

Predicting Future Water Demand, Robert M. Clark, James A. Goodrich and James I. Gillean, EE Dec. 82,

p1248-1264.

Technique for Calibrating Network Models, Thomas M. Walski, WR Oct. 83, p360-372.

Water flow

Bulk Water Flow to Power Marine Beacons, Andrew D. Grant, EY Sept. 83, p142-151.

Calculation of Environmental Flows in Complex Geometries, G. D. Raithby, (Frontiers in Hydraulic

Engineering, Hung Tao Shen, ed., 1983), p292.
Deflections of Jets by Weak Crossflows, Peter M.
Steffler and Nallamuthu Rajaratnam, EM Oct. 83, p1303-1307.

Experiments on Starting Homogeneous Jets, John D. Demetriou, HY July 83, p1039-1044.

Finite Element Model of Fracture Flow and Transport, Peter S. Huyakorn, James W. Mercer and Barry H. Lester, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1166-1169. Investigation of Daily Flow Forecasting Models, Hasan Yazicigil, A. Ramachandra Rao and G. H. Toebes,

WR March 82, p67-85.

Limits for Practical Level-Basin Design, Albert J. Clemmens and Allen R. Dedrick, IR June 82, p127-141.

Lower Flow Regime Bedforms: Rational Classification, Timothy R. H. Davies, HY March 82, p343-360. Measurement Device Effect on Channel Water Loss,

Thomas J. Trout, IR March 83, p60-71.

Model of Mississippi River Pool: Mass Transport,
Alexander C. Demetracopoulos and Heinz G. Stefan,

EE Oct. 83, p1006-1019. Modeling Circulation in Depth-Averaged Flow, Victor M. Ponce and Steven B. Yabusaki, HY Nov. 81. p1501-1518. Modeling of Ice Discharge in River Models, Darryl J.

Calkins, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p285-290. Node Flow Analysis of Water Distribution Systems,

Pramod R. Bhave, TE July 81, p457-467. Nonequilibrium Bedload Transport by Steady Flows, Robert G. Bell and Alex J. Sutherland, HY March 83. p351-367.

Numerical Computation for Flow Regulation of Water Power Stations, Chen Shou Yu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p597. Two-dimensional Transient Behavior of Estuarine

Salinity, Carl F. Cerco and Albert Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p375-379.

The V-Shaped Broad-Crested Weir, Wubbo Boiten and Remmet H. Pitlo, 1R June 82, p142-160.

Water hammer

Characteristics Method Using Time-Line Interpola-tions, David E. Goldberg and E. Benjamin Wylie, HY May 83, p670-683.

Transient Cavitating Pipe Flow, Victor L. Streeter, HY Nov. 83, p1407-1423.

Water hyacinths

Factors Affecting Nitrogen Removal in Water Hyacinth Treatment Systems, Scott A. Weber and George Tchobanoglous, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p73-80.

Water infiltration

Water infiltration
Ground-Water Transport from Wastewater Infiltration,
Philip B. Bedient, Nina K. Springer, Ernesto Baca,
Tracy C. Bouvette, S. R. Hutchins and Mason B.
Tomson, EE Apr. 83, p485-501.
Interrelationships of Irrigation Uniformity Terms, A.

W. Warrick, IR Sept. 83, p317-332. Limits for Practical Level-Basin Design, Albert J. Clemmens and Allen R. Dedrick, IR June 82,

Vadose Zone Permeability Tests: Summary, Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p623-639.

Water intakes

Environmental and Engineering Considerations in Designing Coastal Water Intakes, P. Hofmann, Y. G. Musalli and E. P. Taft, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2308-2321. Pipelines in Adverse Environments, John C. Seeley,

(Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p468-473. Study on Sediment Transport in a Power Station Harbor Basin, Kohki Maruyama, Ryoichi Kajima, Akio Narihiro and Kosuke Kondo, (Proceedings o Coastal Engineering 82, Billy L. Edge, ed., 1983),

Water level

Multipurpose Gate Operation, Kazumasa Mizumura, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2534-2550.

Water levels
Great Lakes Regulation by Lake Superior Plan 1977,
Donald J. Leonard and Malcolm J. Todd, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al., eds., 1983), 2211-224.
A Numerical Water Level Model for Lake Okeechobee,

A Numerical Water Level Model for Lake Okeechooee, Richard A. Schmalz, Jr., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p586. Pumping Near Mt. St. Helens Lowers Lake, CE Sept.

83, p18.

J. Sobey, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p108-128.

Water management
Can the Private Sector Solve Water Investment Problems? Neil S. Grigg, CE April 83, p6.
Can the Private Sector Solve Water Investment Problems? Neil S. Grigg, CE April 83, p6.
Irrigation Water Delivery for Equity between Users, A.
A. Bishop and A. K. Long, IR Dec. 83, p349-356.
Revising Reservoir Operation Enhances Instream Uses,
Wayne S. Gentry, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p446-453.
Water Experts Call for Innovative Financing, CE Feb.
83, p8.

Water pipelines
Water Supply Lines in the Arctic and Subarctic, Robert
Alan Haviland, (Pipelines in Adverse Environments II,
Mark Pickell, ed., 1983), p694-703.

The Peril and Opportunity in the Water States, William C. Wright, CE Nov. 83, p72-73.

Regional versus Local Water Supply Planning, James E. Crews, WR Apr. 83, p179-185.

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Calibration of NPS Model Loading Factors, John P. Hartigan, Thomas F. Quasebarth and Elizabeth Southerland, EE Dec. 83, p1259-1272.

Coastal Pollution from Septic Tank Drainfields, Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82,

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Desorption Kinetics in Modeling of Toxic Chemicals, Peter R. Jaffe and Raymond A. Ferrara, EE Aug. 83,

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Gravity Wastewater Collection Systems Optimization, A. Gupta, S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209. Hydrologic Delineation of Nonpoint Source Contributing Areas, William J. Gburek, EE Oct. 83,

uting Area p1035-1048.

Managing Potomac Water Quality: Evolving Approaches, Austan S. Librach, Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N. Magill, EE June 82, p562-577.

Magni, E. Suppose S. pozoro.

A Multidisciplinary Approach to Assessing Pollution in Coastal Waters, Edward R. Long, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p163-178.

Pesticide Transport and Bioconcentration Model,

Jerald L. Schnoor and Drew C. McAvoy, EE Dec. 81, p1229-1246.

Pollution Routing in Streams, Antonis D. Koussis, Melio A Saenz and Joannis G. Tollis, HY Dec. 83. p1636-1651.

Urban Shore-Based Fishing: A Health Hazard? Charles A. Heatwole and Niels C. West, (Coastal Zone 23, Orville T. Magoon, et al, eds., 1983), p2587-2598. The Water Bubble Concept: Its Suitability to Coastal Embayments, Carolyn T. Hunsaker, (Coastal Zone 23, Orville T. Magoon, et al, eds., 1983), p15-31.

Water pollution control 1983 National Conference on Environmental Engineering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.

Ocean Outfall Design Treated Wastewater Discharges, Peter W. Failla, Charles M. Norkis, Francis Pandullo and Philip F. Healy, (Pipelines in Adverse Environ-ments II, Mark Pickell, ed., 1983), p563-572.

Prevention of Acid Drainage from Stored Coal, Harvey Olem, Tracey L. Bell and Jeffery J. Longaker, EY

June 83, p103-112.
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Water Quality Management of Laguna de Bay, E. W. Lee and B. L. Adan, EE Aug. 83, p886-899.

Water pollution sources

Dispersion in Three Dimensions: Approximate Analytic Solutions, Budhi Sagar, HY Jan. 82, p47-62.
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Water purification

Ames Test of Ferrate Treated Water, Sergio J. DeLuca,

Allen C. Chao and Charles Smallwood, Jr., EE Oct. 83, p1159-1167.

Pilot Plant Study of Treatment Options for Producing Potable Water at Thornton, Colorado, Ben W. Lykins, Jr. and Mark A. Speed, (National Conference on Environmental Engineering, Allen Medine, et al,

on Environmental Engineering, Auch Income, et al., eds., 1983), p287-289.

Removal of Microorganisms by Slow Rate Sand Filtration, Linda K. McConnell, Ronald C. Sims, Darwin L. Sorensen, William B. Barnett and V. Dean Adams, (National Conference on Environmental Envir

gineering, Allen Medine, et al, eds., 1983), p419-425. Removal of Organic Priority Pollutants by Oxidation-Coagulation, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, EE Feb. 83, p36-46.

An Alternative to the Peripheral Canal, Gerald T.

Orlop, WR March 82, p123-141.

Basin-Wide Impacts of Irrigation Efficiency, L. S.
Willardson and R. J. Wagenet, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p522-529. Calibration of NPS Model Loading Factors, John P.

Hartigan, Thomas F. Quasebarth and Elizabeth Southerland, EE Dec. 83, p1259-1272.

Circulation of Two Multipass Estuaries in the Gulf of Mexico, Donald Steven Graham, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p2595-2609.

Derivative Approximations in the Two-Point Fourth-Order Method for Pollutant Transport, Forrest M. Holly, Jr. and Toshimitsu Komatsu, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983).

Dynamic Advective Water Quality Model for Rivers, Keith W. Bedford, Robert M. Sykes and Charles

Keith W. Bedford, Robert M. Sykes and Charles Libicki, EE June 83, p535-554.

The Effect of Sub-Tidal Variations on Long-Term Water Quality Trends, Tavit O. Najarian, M. Llewellyn Thatcher and Donald R. F. Harleman, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p174-181.

Ensuring Water Quality in a Distribution System, Karl B. Stinson and Keith E. Carns, EE Apr. 83, p289-304.

Psubation of Stream Water-Quality Models, Steve C.

Evaluation of Stream Water-Quality Models, Steve C McCutcheon, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p190-

In Third World Villages, a Simple Handpump Saves Lives, Allen Morrison, CE Oct. 83, p68-72.

Integrated Wastewater Management, Bhagwan R. Kansakar and Chongrak Polprasert, EE June 83, p619-630.

Lake Temperature Dynamics in Hybrid Cooling Sys-tem, T. W. Sturm, J. M. Fulford and K. J. Fay, EE June 83, p668-684. Land Application of Wastewater: Water Rights Issue Craig Bell, William E. Cox and Glen Fiedler, WR

Oct. 83, p287-302.

Landsat and Water Quality Model Verification, Donald Steven Graham and John M. Hill, TE Sept. 83,

LARM Two-Dimensional Model: An Evaluation, John

A. Gordon, EE Oct. 81, p877-886.

Managing Water Quality by Mixing Water from Different Sources, Tung Liang and Soronadi Nnaji,

WR Jan. 83, p48-57.
Most Rapid BOD Assimilation in Ganga and Yamuna Rivers, D. S. Bhargava, EE Feb. 83, p174-178.
Optimal Cost Control Strategies for Attached Algae, Raymond P. Canale, Martin T. Auer, Yuzuru Matsuoka, Thomas M. Heidtke and Steven J. Wright, EE Dec. 83, p1225-1242.

Oxygen Modeling in Tailwaters of Hydro Projects, Gary E. Hauser and Lisa M. Beard, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Parallel Canal Design for Waterfront Development, Frederick W. Morris, IV, Richard S. Tomasello, Damodar S. Airan and Nathan Putchat, EE Feb. 83, p206-218.

Performance of Some Empirical Phosphorus Models, Dintie S. Mahamah and Surinder K. Bhagat, EE Aug. 82, p722-729.

Polyphosphate Additions for Corrosion Control in Water Distribution Systems, Shankha K. Banerji, John T. O'Connor and David J. S. Huang, (National Engineering, Allen Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p97-109.
Post-Audit of Lake Model Used for NPS Management,

Post-Audit of Lake Model Used for NrS Management, John P. Hartigan, John A. Friedman and Elizabeth Southerland, EE Dec. 83, p1354-1370.
Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp.
Pump Testing Boulder Zone Aquifer, South Florida, Lidai P. Sirch Garv F. Eichler, C. Ross Stroul and I.

Udai P. Singh, Gary E. Eichler, C. Ross Sproul and J. I. Garcia-Bengochea, HY Aug. 83, p1152-1160.

Reservoir Circulation Patterns and Water Quality,

Byung R. Kim, John M. Higgins and David J. Bruggink, EE Dec. 83, p1284-1294.

Reservoir Modeling to Develop AWT Nitrate Standard, John P. Hartigan, EE Dec. 83, p1243-1258. Sampling Strategies for Mass-Discharge Estimation.

Byron Bodo and T. E. Unny, EE Aug. 83, p812-829. Sensitivity of Parameters and Approximations in Models of Tidal Propagation and Circulation, Jan J. Leendertse and Shiao-Kung Liu, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p573-581.

Simulating Advective Transport in Reservoirs, Mark S. Dortch and William L. Boyt, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p21-26. Small Stream Channel Dam Aeration Characteristics, Thomas A. Butts and Ralph L. Evans, EE June 83, p555-573.

Stearns Becomes President: Public Safety and Quality

Water Among Concerns, CE Oct. 83, p76-77. Surfing Interests in Coastal Zone Planning, Tom Pratte, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p2683. Thermal Application of Leendertse's 2-D Model, Fonda Thompson and Richard M. Ecker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p584

Total Suspended Solids in Highway Runoff in Wash-John F. Ferguson, EE April 82, p391-404.

Uranium in Water (Itr.), C. Richard Cothern and William L. Lappenbusch, CE Jan. 83, p21.

Urban Runoff Quality: Information Needs, Michael B. Sonner TC Aug. 90, 220-40.

Urban Runoft Quanty: Information Needs, Michael B. Sonnen, TC Aug. 80, p29-40.

The Water Bubble Concept: Its Suitability to Coastal Embayments, Carolyon T. Hunsaker, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p15-31.

Water Quality and Waste Disposal Regulatory Trends Affecting Utilities, James W. Lingle, (Emerging Energy/Environmental Trends and the Engineer, Pages 10, Neuroled et al, eds. 1983), p29-31.

Ronald D. Neufeld, et al, eds., 1983), p29-31.

Water Quality: Fitting the Model to the Problem, Robert V. Thomann and John P. Connolly, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p166-173.

Water Quality Impacts Associated with Residential Development in the Coastal Zone Areas of Atlantic County, New Jersey, Gary L. Bickle, (Coastal Zone

'83, Orylle T. Magoon, et al, eds., 1983), p2739-2753. Water Quality Monitoring of Eastern Sicily's Coastal Zone near Taormina Using Remote Sensing Techniques, Alberto L. Geraci and Tommaso Caltabiano, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p194-205.

Water quality control

A Dynamic Control Strategy for Water Treatment, Paul J. Ossenbruggen, Gordon Kraft and Farrid Bosli, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p89-96.

Inlake Water Quality Enhancement of a Water Supply Impoundment in Illinois, Veerasamy Kothandara-man and Ralph L. Evans, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p318-326.

Managing Potomac Water Quality: Evolving Approaches, Austan S. Librach, Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N.

Magill, EE June 82, p562-577. Waste Load Allocation Model of Heavy Metals in Flint River, Michigan, William L. Richardson, Joseph V. DePinto and Charles Delos, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p500-508.

Water Quality Management of Laguna de Bay, E. W. Lee and B. L. Adan, EE Aug. 83, p886-899.

Water quality standards

1983 National Conference on Environmental Engineering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.

A Case History of Developing Water Quality Standards and Use Classification by a Shale Oil Industry, Paul N. Seeley and Allan L. Udin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p783-788.

Conference Features Water Quality Standards, CE June 83, p62.

Removal of Microorganisms by Slow Rate Sand Filtration, Linda K. McConnell, Ronald C. Sims, Darwin L. Sorensen, William B. Barnett and V. Dean Adams, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p419-425.

Water Quality Standards in Colorado, Tad Foster, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p158-165.

Water resource development

Fifty Years of Operation of the TVA Reservoir, Bevan W. Brown and Robert A. Shelton, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p138-151.

Water resource management
Reservoir Management in the Delaware River Basin,
Gerald M. Hansler and Robert L. Goodell, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p180-190.

Water resources

Augmentation of Urban Water by Antarctic Icebergs, J. D. Lawson and D. S. Russell-Head, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2610-2618

Bedrock Aquifers of the Northern Great Plains, Joe S. Downey, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p29-35. Estimation of Water Demands Using Deficit Analysis. Robert M. Clark, James A. Goodrich and James I. Gillean, WR Oct. 83, p271-286. Next Issue—The Nation's Water Infrastructure, Frank

Musica, CE June 83, p104. Optimal Design of Small Reservoir Systems, Prem N. Sharma and Otto J. Helweg, IR Dec. 82, p250-264. Optimal Operation of Multiple Reservoir Systems, Quentin W. Martin, WR Jan. 83, p58-74.

Predicting Future Water Demand, Robert M. Clark, James A. Goodrich and James I. Gillean, EE Dec. 82, p1248-1264.

Secondary Recovery of Water, B. J. Claborn, IR Dec. 83, p357-365. Seepage into Collection Galleries, Bruce Hunt, HY

June 83, p852-864.

Soil Surface Evaporation and Water Table Depths, Sun F. Shih, IR Dec. 83, p366-376. Steel Pipeline Provides New Water Supply for Jordan,

Robert L. Thoem, Charles L. Meyer and Mark C Boner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p279-290.

Thailand Peace Corps Seeks Advice (ltr.), Heidi Pfeiffer, CE June 83, p26.

Water Resources Information Will Be Compiled By

Interior Dept., CE June 83, p18. Water Reuse in Water Surplus Environment, John W. Smith and Clifton Ritter, WR July 83, p223-235.

Water resources development Accomplishments and Impacts of Reservoirs, Gordon G. Green, ed. and Earl E. Eiker, ed., 1983, 235pp.
After Seven Years--A New Water Authorization Law?
Helen Bogolubov Desai, CE Oct. 83, p130.

Arizona's Water Strategy: Bring More In and Restrict Its Use, Allen Morrison, CE April 83, p46-49. Correlates of Community Development, Albert Schaffer and Ruth C. Schaffer, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds.,

1983), p45-55. Estimation of Water Demands Using Deficit Analysis, Robert M. Clark, James A. Goodrich and James I.

Gillean, WR Oct. 83, p271-286. Implementation Aspects of Water Resources Planning in India, Udai P. Singh, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p203-210.

Regulation of Missouri River Main Stem Reservoirs, Duane J. Sveum and George A. Patenode, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p94-108.

Should Analytical Procedures Equal Available Data? Vernon K. Hagen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p505-512.

Water resources management

1983 National Conference on Environmental Engineering, Allen Medine, ed. and Michael Anderson, ed., 1983, 975pp.

Annotated Bibliography on Urban Design Storms, Urban Water Resources Research Council of the American Society of Civil Engineers, 1983, 41pp. Coastal Wetlands for Water Resources Management R. Gregory Bourne and Craig H. Wolfgang, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1457-1472.

Columbia Basin Reservoirs Accomplishments, Gordon G. Green, Douglas D. Speers and Thomas L. White, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p56-75.

Conference Highlights Water Resources Management,

J. Marshall Anthony, CE Aug. 83, p16. Ground-Water Management in Western Kansas, Edward D. Jenkins, HY Oct. 83, p1314-1322.

Iran's Mode of Modernization: Greening the Desert, Deserting the Greenery, H. Pazwash, CE Apr. 83, p48-51.

Monitoring the Environment-McClellan-Kerr Waterway, Quinn G. Spann, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p20-30.
National Water-Use Information Program, William B.

Mann, IV, John E. Moore and Edith B. Chase, WR

Apr. 83, p186-194.

The Peril and Opportunity in the Water States, William C. Wright, CE Nov. 83, p72-73. Regional versus Local Water Supply Planning, James E. Crews, WR Apr. 83, p179-185.

Short-Term Hydrodynamics in a Stratified Reservoir, John A. Gordon and J. Steven Lane, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p524-531.

Water for Las Vegas Metropolitan Area, Donald A. Haselhoff, EE June 83, p700-712.

Mater Resources Information Will Be Compiled By Interior Dept., CE June 83, p18. Water Supply, CE June 83, p50-53. Water Supply Management Conference Scheduled for March, CE Jan. 83, p81.

Water reuse

Chlorine Inactivation of a DNA-Containing Enteric Virus, C. C. Churn, G. D. Boardman and R. C. Bates, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p426-432.

Denver's Potable Water Reuse Demonstration Project.

William C. Lauer and Stephen W. Work, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p290-295. From Wastewater to Drinking Water, Richard P.

Arber, CE Feb. 83, p46-49.

Models for Water and Reuse Wastewater Planning,
Mary Schwartz and Larry W. Mays, EE Oct. 83,

p1128-1147.

Pilot Plant Study of Treatment Options for Producing Potable Water at Thornton, Colorado, Ben W. Lykins, Jr. and Mark A. Speed, (National Conference on Environmental Engineering, Allen Medine, et al. eds., 1983), p287-289.

Reuse of Municipal Effluent in Mineral Flotation, Paul H. King, Alan M. W. Chu, Eric C. L. Chu and Gary L. Amy, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p464-

470

Water Conservation and Reuse at Coal-Fired Power Plants, Frank L. Shorney, WR Oct. 83, p345-359. Water Reuse in Water Surplus Environment, John W. Smith and Clifton Ritter, WR July 83, p223-235.

Water rights Ground Water and Federal Reserved Rights, John W. Bird, WR Apr. 83, p174-178. Ground-Water Management in Arizona, Philip C. Briggs, WR July 83, p195-202.

Land Application of Wastewater: Water Rights Issues

Craig Bell, William E. Cox and Glen Fiedler, WR Oct. 83, p287-302.

Modeling of Return Flow in a Water Rights Transfer, Donald K. Frevert and Wynn R. Walker, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p377-384.

The Peril and Opportunity in the Water States, William C. Wright, CE Nov. 83, p72-73.

Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther,

ed. and Robert D. Burman, ed., 1983, 558pp. Water Rights Transfers and Irrigation Efficiency, James L. Wescoat, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p385-390.

Sampling Strategy for River Pollutant Transport, Stephen M. Yaksich and Frank H. Verhoff, EE Feb. 83, p219-231.

Water storage Impact of Storage Reservoirs on the Eastern Front Range of Colorado, Larry D. Simpson, (Accom-plishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p87-93.

Monolithic Covers for Water Storage Reservoirs, Lorrin

Pittendreigh, CE July 83, p14.

Water supplies
Great Lakes Regulation by Lake Superior Plan 1977,
Donald J. Leonard and Malcolm J. Todd, Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p211-224.

Water supply Coastal Wetlands for Water Resources Management, R. Gregory Bourne and Craig H. Wolfgang, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1457-1472.

Cooling Water Supply-Disposal in Coastal Aquifer, Masanobu R. Fujioka and Akshai K. Runchal, EY

June 83, p88-102.

Data Automation for Water Supply Management, Robert J. Sutter, Ronald D. Carlson and Dan Lute.

WR July 83, p237-252.

Demand Management Using Disaggregated Projections, Allison Harper, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p280-286.

Denver's Potable Water Reuse Demonstration Project,

William C. Lauer and Stephen W. Work, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p290-295.
Estimation of Water Demands Using Deficit Analysis,
Robert M. Clark, James A. Goodrich and James I.

Robert M. Clark, James A. Goodfich and James I. Gillean, WR Oct. 83, p271-286.

Evaporation Reduction: Summary of Long-Term Tank Studies, Keith R. Cooley, IR March 83, p89-98.

In Third World Villages, a Simple Handpump Saves Lives, Allen Morrison, CE Oct. 83, p68-72.

Inlake Water Quality Enhancement of a Water Supply Impoundment in Illinois, Veerasamy Kothandara-man and Ralph L. Evans, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p318-326.

Managing Water Quality by Mixing Water from Different Sources, Tung Liang and Soronadi Nnaji, WR Jan. 83, p48-57.

Optimal Layout for Branching Distribution Networks, Pramod R. Bhave and Chan F. Lam, TE July 83,

p534-547.

Regional versus Local Water Supply Planning, James E. Crews, WR Apr. 83, p179-185. Removal of Organic Priority Pollutants by Oxidation-Coagulation, Sergio J. DeLuca, Allen C. Chao and Charles Smallwood, EE Feb. 83, p36-46

Research Needs of Water Utilities Related to Groundwater Contamination, James F. Manwaring, (National Conference on Environmental Engineering, Allen

Medine, et al, eds., 1983), p34-40 Nitrate Standard, John P. Hartigan, EE Dec. 83, p1243-1258.
Seepage into Collection Galleries, Bruce Hunt, HY

June 83, p852-864.

Steel Pipeline Provides New Water Supply for Jordan, Robert L. Thoem, Charles L. Meyer and Mark Boner, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p279-290.

Water Supply Management Conference Scheduled for March, CE Jan. 83, p81.

Water Supply to Namaqualand, D. Stephenson and N. D. Graham, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p456-467.

Yakima-Tieton Irrigation District Canal Repairs,

Richard V. Haapala, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p141-146.

Water supply forecasting
Predicting Future Water Demand, Robert M. Clark,
James A. Goodrich and James I. Gillean, EE Dec. 82, p1248-1264

pl246-1204. Vital Life Supports for N.Y.C. through the 20th Century, Martin Lang, UP May 83, p21-26. Water for Las Vegas Metropolitan Area, Donald A. Haselhoff, EE June 83, p700-712. Water Supply, CE June 83, p50-53.

Water supply system
Water Supply Lines in the Arctic and Subarctic, Robert
Alan Haviland, (Pipelines in Adverse Environments II,
Mark Pickell, ed., 1983), p694-703.

Water supply systems Advisory Notes on Lifeline Earthquake Engineering, The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (William J. Hall, chmn.), 1983, 232pp.

Analyzing Infrastructure Condition-A Practical Approach, D. Kelly O'Day, CE April 83, p39-42. Boston Tunes Up Water System, CE June 83, p48-50.

Boston Tunes Up Water System, CE June 83, p48-50. Can the Private Sector Solve Water Investment Problems? Neil S. Grigg, CE April 83, p6.
Can the Private Sector Solve Water Investment Problems? Neil S. Grigg, CE April 83, p6.
Graphic Input Improves Hydraulic Network Analysis, William S. Alper, T. Davil Pay and Marshall H. Smith, Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), 246-49. p46-49

David E. Fleming, Roger K. Hanson and John W. Labadie, WR Jan. 83, p94-111.

Maintenance Standards for a Distribution System with a Limited Water Supply, Lowell F. Ploss, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p154-159.

Management Control System San Diego Water Utilities, Richard W. King, (Improving Productivity, J. R.

King Jr., ed., 1983), p89-98.

Optimal Design of Branched Water Supply Networks,
Anand V. Chiplunkar and P. Khanna, EE June 83, p604-618.

Optimal Operation of Multiple Reservoir Systems, Quentin W. Martin, WR Jan. 83, p58-74. Optimization of Gravity-Fed Waste Distribution Sys-tems: Theory, Pramod R. Bhave, EE Feb. 83,

p189-205 Sugar Pine Pipeline Design and Construction, David A. Aitken, (Pipelines in Adverse Environments II, Mark

Pickell, ed., 1983), p34-48.
Vital Life Supports for N.Y.C. through the 20th Century, Martin Lang, UP May 83, p21-26.
Water Supply, CE June 83, p50-53.

Water surface

Drift Currents of Clean and Slick Sea Surfaces, Jin Wu, (Proceedings of Coastal Engineering 82, Billy L. Edge,

(Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2386-2389.
Individual Wave Analysis of Irregular Wave Deformation in the Nearshore Zone, Masaru Mizuguchi, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p485-504.
Mechanical Mixing and Surface Reaeration, Robert B. Banks, Liqa Raschid-Sally and Chongrak Polprasert, EE Feb. 83, p232-241.
Water Waves Propagating on Beaches of Arbitrary Slope, Y. Y. Chen and H. H. Hwung, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p811-822.

Water surface profiles Measurmment of Velocities in Solitary Waves, Jiin-Jen Lee, James E. Skjelbreia and Fredric Raichlen, WW May 82, p200-218.

New Equation of Surface Elevation in Wave Motion, Y. C. Ouyang, Y. Y. Chen and Frederick L. W. Tang, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p505-522.

Steady, Non-Uniform, Rapidly Varied Flow Profiles, Eugene J. Gemperline and W. R. Ivarson, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p593.

Water table

Assessing Waterlogging Controls II: Impact Forecasts, R. A. Young, H. J. Morel-Seytoux and A. R. Simpson, (Advances in Irrigation and Drainage, John Soil Surface Evaporation and Water Table Depths, Sun F. Shih, IR Dec. 83, p366-376.

Water tanks

Ensuring Water Quality in a Distribution System, Karl B. Stinson and Keith E. Carns, EE Apr. 83, p289-304. Optimal Design of Small Reservoir Systems, Prem N. Sharma and Otto J. Helweg, IR Dec. 82, p250-264. Relocation Saves 220-Ton Water Tank, CE June 83,

p12.

Water temperature Gas-Film Coefficients for Streams, Ronald E. Rathbun and Doreen Y. Tai, EE Oct. 83, p1111-1127.

Hiwassee Pumped-Storage Temperature Study, Russ T. Brown and Ming C. Shiao, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), 1386-391. Lake Temperature Dynamics in Hybrid Cooling System, T. W. Sturm, J. M. Fulford and K. J. Fay, EE

June 83, 5668-684.

Modeling of Unsteady-Flow Water Temperatures, M.
Hanif Chaudhry, David E. Cass and John E. Edinger,

HY May 83, p657-669. Temperature Effects on RBC Scale-Up, Yeun C. Wu, Ed. D. Smith and Chiu Y. Chen, EE Apr. 83, p321-331.

Thermal Application of Leendertse's 2-D Model, Fonda L. Thompson and Richard M. Ecker, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p584

Thermal Dependent Physical Properties of Water, Richard J. Heggen, HY Feb. 83, p298-302.

Water Quality Mitigation at a Pumped Storage Plant, Alan Milton, E. Eric Adams, John H. Mason, Belmonte P. Cucolo and John W. Blake, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p516-523.

Water temperatures Local Wind Forcing and Small Scale Upwelling, Cairns A. R. Bain, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2390-2402.

Water transfer

An Alternative to the Peripheral Canal, Gerald T. Orlop, WR March 82, p123-141.

Water transportation

Strategic Planning for a National Waterways System, Arlene L. Dietz, WR Jan. 83, p1-12.

Water treatment

Adsorption Isotherm Parameter Estimation, Michael W. Sweeney, William A. Melville, Boris Trgovcich and C. P. Leslie Grady, Jr., EE Oct. 82, p913-922. Design of Carbon Beds to Remove Humic Substances,

M. C. Lee, J. C. Crittenden, V. L. Snoeyink and M. Ari, EE June 83, p631-645.

Factors Affecting Nitrogen Removal in Water Hyacinth Treatment Systems, Scott A. Weber and George Tchobanoglous, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p73-80.

Identity and Character of Iron Precipitates, R. Bruce Robinson, Turgut Demirel and E. Robert Baumann,

RODINSON, 1 Urgut Demiret and E. RODERT Baumann, EE Dec. 81, p1211-1227.

The Incidence, Monitoring, and Treatment of Viruses in Water Supply Systems, Task Committee on Viruses in Drinking Water of the Committee on Water Supply and Resources Management of the Environmental Engineering Division, 1983, 85pp. Microbial Activity in Activated Carbon Filters, John G. den Blanken, EF, April 82, p405-425.

den Blanken, EE April 82, p405-425. Microbial Dynamics in GAC Filtration of Potable Water, Charles N. Haas, Michael A. Meyer and Marc S. Paller, EE Aug. 83, p956-961.

Optimizing GAC Systems, Robert M. Clark, EE Feb. 83, p139-156.

Upgrading Water Filtration Plants, Paul W. Prendiville, CE Oct. 83, p64-67.

User-Oriented Batch Reactor Solutions to the Homogeneous Surface Diffusion Model, David W. Hand, John C. Crittenden and William E. Thacker, EE Feb. 83, p82-101.

Water treatment plants Identity and Character of Iron Precipitates, R. Bruce Robinson, Turgut Demirel and E. Robert Baumann, EE Dec. 81, p1211-1227.

Poliot Plant Study of Treatment Options for Producing Potable Water at Thornton, Colorado, Ben W. Lykins, Jr. and Mark A. Speed, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p287-289.

Upgrading Water Filtration Plants, Paul W. Prendiville, CE Oct. 83, p64-67.

Water tunnels
Lining Tunnels: Toughest Concreting Job?, CE Nov. 83, p60-63. NYC Resumes Water Tunnel Construction, CE April

83, p10.

Water us

Impact of Storage Reservoirs on the Eastern Front Range of Colorado, Larry D. Simpson, (Accom-plishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p87-93.
National Water-Use Information Program, William B.

Mann, IV, John E. Moore and Edith B. Chase, WR

Apr. 83, p186-194.

Revising Reservoir Operation Enhances Instream Uses, Wayne S. Gentry, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p446-453.

Saline Water Use Prospects: Colorado River, Michael B. Bessler, IR June 83, p221-231.

Water Allocation Conflicts on the Canadian Prairies, Ian C. Goulter and Bruce Webb, WR Apr. 83, p147-164.

Water waves

Applications of a Numerical Shallow Water Waves Model, A. Haugel and P. H. Pechon, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p846-861.

Boundary Integral Solutions of Water Wave Problems, Gerard P. Lennon, Philip L-F. Liu and James A.

Liggett, HY Aug. 82, p921-931. Comparison of Manual Wave Prediction Models, Craig T. Bishop, WW Feb. 83, p1-17. Measurmment of Velocities in Solitary Waves, Jiin-Jen Lee, James E. Skjelbreia and Fredric Raichlen, WW

May 82, p200-218. Natural Wave Trains and Scattering Transform, Rodney J. Sobey and Errol J. Coleman, WW Aug. 82,

p272-290.

Orbital Motion of Water Particles in Oscillatory Waves,

Yen-his Chu, WW May 83, p260-265.
Particle Motion under Stokes Waves, Eliezer Kit and Michael Stiassnie, WW Aug. 81, p202-204.
Physical Modeling of Sea-Seabed Interactions, Tokuo Yamamoto, Shigeo Takahashi and Bruce Schuckman, EM Feb. 83, p54-72.

man, EM Feb. 33, p53-4. Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp. Tsunami Hazards in Coastal Zones, James R. Houston and Frank Y. Tsai, (Coastal Zone 33, Orville T. Magoon, et al, eds., 1983), p2024-2036. Waterwaves Calculation by Navier-Stokes Equations, O. Daubert, A. Haugel and J. Cahouet, (Proceedings of Coastal Engineers, 82, Vol. 1, Bills), I Telegraphy.

of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p832-845.

Wave Data Discretization for Shore Line Processes Bernard Le Mehaute, John D. Wang and Chia-Chi Lu, WW Feb. 83, p63-78.

Water yield Water Yield Estimation in Western United States, Mark E. Hawley and Richard H. McCuen, IR March 82, Waterfront facilities

VALETTORI ISCUIIIES

Dorchester Rediscovered Urban Waterfront Access,
Marianne C. Connolly, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p122-137.

Down to the Sea in Pleasure Piers, Wesley Marx,
(Coastal Zone '83, Orville T. Magoon, et al, eds.,
1983), p1865-1881.

Economic and Technical Options for Obsolete Marine
Terminals, Victor V. Calabretta and Robert H.
Wardwell, (Proceedings of Ports 83, Kong Wong, ed., 1983), p30-41.

Pile Testing for Waterfront Structures, Arthur J. O'Brien and Douglas W. Lovell, (Proceedings of Ports

83, Kong Wong, ed., 1983), p495-511.
Port of New Orleans Upgrading of Facilities at First Street Wharf, Alan Francingues and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Trident Naval Submarine Base: Planning and Design, John M. Lowe, Jr., UP May 83, p7-20. Upgrading of Facilities at Napoleon Avenue Wharves,

Alfonso Arsuaga and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983), p343-351.

Waterfront Cleanup from a Municipal Perspective,

Laurie Rogers Wardell, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p361.

Watershed management
A Data-Based Evaluation of the Curve Number Method, Robert J. Montgomery and Paul E. Clopper, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p290-297.

Water Yield Estimation in Western United States, Mark

E. Hawley and Richard H. McCuen, IR March 82,

p25-34.

Watersheds
Acid Rain Model: Canopy Module, Carl W. Chen,
Robert J. M. Hudson, Steven A. Gherini, J. David
A. Goldstein. EE June 83, p585-603.

Approximate Error Bounds for Simulated Hydrographs, David C. Garen and Stephen J. Burges, HY Nov. 81, p1519-1534.

Calibration of NPS Model Loading Factors, John P.

Hartigan, Thomas F. Quasebarth and Elizabeth Southerland, EE Dec. 83, p1259-1272.
Comparison of Four Rainfall-Runoff Methods, Bruce J. McGurk and Richard H. Hawkins, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p476-483.

The Curve Number Runoff Model as an Infiltration Model for Hydrograph Simulation, Michael E. Meadows and Allen L. Chestnut, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p298-307.

Design, Programming and Maintenance of HSPF, Robert C. Johanson and John L. Kittle, TC Apr. 83,

p41-57.

Distribution of Infiltration on a Small Watershed, Oliver J. Grah, Richard H. Hawkins and Terrance W.

Cundy, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p44-54. Erosion Control Facilities—Mitigating Their Effect on Coastal Sediment Supplies, David M. Potter, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2317-2327

Estimating the Time of Concentration of Urban Watersheds, Richard H. McCuen, Stanley L. Wong and Walter J. Rawls, (Frontiers in Hydraulic Engi-

neering, Hung Tao Shen, ed., 1983), p547-552.

Evaluation of T. Methods for Urban Watersheds,
David F. Kibler and Gert Aron, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

p553-558.

Finite Element Simulation of Overland Flow, Nathaniel Peters, George Blandford and Michael E. Meadows, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p466-475.

Generalized SCS Runoff and Infiltration Equations,

Cheng-lung Chen, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p216-225.

Mt. St. Helens Impact on Cowlitz River Sedimentation, Bobby J. Brown and W. Anthony Thomas, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p147-152.

p147-152.

Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp.
Relation Between Curve Number and Runoff Coeficient, Richard H. McCuen and Timothy R. Bondelid, IR Dec. 81, p395-400.
Sediment Analyses for Urbanizing Watersheds, Gary R. Dyhouse, HY March 82, p399-418.
Sediment Budget in Illinois Small Watersheds, Ming T. Lee, Paul Makowski and William Fitzpatrick, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p599. 1983), p599.

Technique for Estimating Flood Hydrographs for Ungaged Urban Watersheds, V. A. Stricker and V. B. Sauer, (Frontiers in Hydraulic Engineering, Hung Tao

Shen, ed., 1983), p559.

Saleh, ed., 1903, p.03.
Yakima-Tieton Irrigation District Canal Repairs, Richard V. Haapala, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p141-146.

The Ancient Public Right of Access to Waterways, Walter Cook, (Coastal Zone '83, Orville T. Magoon,

waiter Cook, (Coastal Zone 83, Orville 1. Magoon, et al. eds., 1983), 408-419.

Bank Erosion by Waves, Nani G. Bhowmik and Misganaw Demissie, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p195-200.

Navigation and Shore Erosion in Coastal Waterways, Chin V. Wes. (Footbase), Hungalic Engineering.

Chin Y. Kuo, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p207-211.

Waterways, transportation
Design of Inland Navigation Fairways, Henk G.
Blaauw and Henk J. Verhey, WW Feb. 83, p18-30.
Strategic Planning for a National Waterways System,
Arlene L. Dietz, WR Jan. 83, p1-12.

Three Countries to Study Alternatives to the Panama Canal, CE April 83, p10.

Bank Erosion by Waves, Nani G. Bhowmik and Misganaw Demissie. (Frontiers in Hydraulic Engi-

Minganaw Demissie, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p195-200.

Breakwater Stability—Breaking Wave Data, Robert D.

Carver and D. Donald Davidson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2107-2128

Combined Wave-Current Forces on Horizontal Cylinders, B. D. Chandler and J. B. Hinwood, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2171-2188.

1983), p2171-2188.
Dissipation of Wave Energy in a Seawater Outfall Channel, K. G. Witthaus, G. De F. Retief, G. K. Prestedge and L. R. Huskins, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2189-2203.
Integral Properties for Vocoidal Theory and Applications, G. P. Bleach, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p887-900.
An Investigation of the Stable Weight of Rubble for the Engudetions of Vertical Walls under Wave Action.

Foundations of Vertical Walls under Wave Action,

Foundations of Vertical Walls under Wave Action, Yu-Cheng Li and Zi-Quang Zhong, (Coastal Structures '33, J. R. Weggel, ed., 1983), p171-185. The Maximum Total Wave Forces on Pile Group, Dahong Qiu, (Coastal Structures '83, J. R Weggel, ed., 1983), p474-481. The Model Study of a Cylindrical Pier Under Irregular Wave Action, Yi-Qing Sun and Hai-Gui Kang, (Coastal Structures '83, J. R. Weggel, ed., 1983), p447-460.

Modelling of Sea-Bed Evolution under Waves Action, Y. Coeffe and P. H. Pechon, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1149-1160.

New Equation of Surface Elevation in Wave Motion, Y. C. Ouyang, Y. Y. Chen and Frederick L. W. Tang, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p505-522.

Prototype Testing of Dolosse to Destruction, T. Terao,

K. Terauchi, S. Ushida, N. Shiraishi, K. Kobayashi and H. Gahara, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2062-2078.

The Response of Small Craft to Wave Action, M.

Isaacson and A. G. Mercer, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2723-2742.
Shock Pressure of Breaking Waves on Vertical Walls,
M. Salih Kirkgoz, WW Feb. 82, p81-95.

Wave attenuation
Nature of Wave Attenuation in Open Channel Flow,
Victor Miguel Ponce, HY Feb. 82, p257-262.
Ship Deployable Floating Breakwater, P. A. Leach, W.
G. McDougal and C. K. Sollitt, (Coastal Structures
'23, J. R. Weggel, ed., 1983), p404-416.
Wave Attenuation Due to a Modular Porous BreakLanguage and I. A. Sciottino.

water, E. Benassai, A. Ragone and J. A. Sciortino, (Coastal Structures '83, J. R. Weggel, ed., 1983), p222-234.

Wave climatology
Duration of Measurements and Long-Term Wave
Statistics, Shen Wang and Bernard Le Mehaute, WW

Proceedings of the Eighteenth Coastal Engineering Conference, Billy L. Edge, ed., 1983, 2780pp. A South African Wave Climate Study, J. Rossouw, L.

W. Coetzee and C. J. Visser, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p87-107.

West Breakwater-Sines Wave Climatology, Arthur E. Mynett, Willem J. P. de Voogt and Edward J. Schmeltz, (Coastal Structures '83, J. R. Weggel, ed., 1983), p17-30.

Wave damping Characteristics Method Using Time-Line Interpola-tions, David E. Goldberg and E. Benjamin Wylie, HY May 83, p670-683.

Physical Modeling of Sea-Seabed Interactions, Tokuo Yamamoto, Shigeo Takahashi and Bruce Schuck-man, EM Feb. 83, p54-72.

Wave diffraction

Fixed and Floating Axisymmetric Structures in Waves, Michael de St. Q. Isaacson, WW May 82, p180-199. Numerical Calculation of Seiche Motions in Harbours of Arbitrary Shape, P. Gaillard, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p172-191.

Sedimentological Influences of Detached Breakwaters, Dov Sergiu Rosen and Michael Vajda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p1930-1949.

Solitary Wave Diffraction around Large Cylinder, Michael de St. Q. Isaacson, WW Feb. 83, p121-127. Water-Wave Motion Around a Breakwater on a Slowly Varying Topography, Philip L-F Liu and Ting-Kuei Tsay, (Coastal Structures '83, J. R. Weggel, ed., 1983), p974-987.

Wave Interaction with Large Submerged Structures, Henry William Kidman Bird and Robin Shepherd, WW May 82, p146-162.

Wave dispersion

Analogous Dispension Properties of Surf Zone and Electromagnetic Waves, Fritz Bosching, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p154-171.

Characteristics Method Using Time-Line Interpola-tions, David E. Goldberg and E. Benjamin Wylie,

HY May 83, p670-683.

Wave energy

Analysis of Optimal Ocean Wave Energy Conversion,

Michael E. McCormick, WW May 83, p180-198.

Analysis of Tidal Records of the 1964 Alaskan

Tsunami, Basil W. Wilson, (Proceedings of Coastal

22 Val 1 Billy L. Edge, ed., 1983). Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p765-784.

Application of a Numerical Model to Prediction of Shoreline Changes, Matsuoka, Michio and Yasuomi Ozawa, Coastal Structures '83, J. R. Weggel, ed., 1983), p646-659.

Bending Moments on Long Partially Submerged

Cylinders in Random Seas, I. G. Bryden and C. A. Greated, (Coastal Structures '83, J. R. Weggel, ed., 1983), p393-403.

Comparison of Manual Wave Prediction Models, Craig T. Bishop, WW Feb. 83, pl-17.

Dissipation of Wave Energy in a Seawater Outfall Channel, K. G. Witthaus, G. De F. Retief, G. K. Prestedge and L. R. Huskins, (Proceedings of Coastal

Prestedge and L. R. Huskins, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p.189-2203. Integral Properties for Vocoidal Theory and Appli-cations, G. P. Bleach, (Proceedings of Coastal Engi-neering 82, Vol. I, Billy L. Edge, ed., 1983), p.887-900. A Proposal for Wave Energy Conversion Near Cape Town, G. de F. Retief, G. K. Prestedge and F. P. J. Muller, (Proceedings of Coastal Engineering 82, Vol. I, Billy I. Edge, ed. 1983), p.245-260.

Shock Pressure of Breaking Waves on Vertical Walls, M. Salih Kirkgoz, WW Feb. 82, p81-95.

Suspended Sediment Discharge on a Non-Tidal Coast, I. P. Coalley and M. G. Stefel (No. 1).

J. P. Coakley and M. G. Skafel, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1288-1304.

Wave Energy Variation Near Cape Town, South Africa, F. A. Shillington, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), 9473-484. Wave Power Estimates Utilizing Ocean Wave Spectra, John M. Niedzwecki, EY Dec. 83, p222-235.

Wave force

Maximum Wave Force on a Horizontal Cylinder, S. P. Rai and M. H. Abdul Khader, (Coastal Structures '83, J. R Weggel, ed., 1983), p482-491.

Wave forces

2- and 3-Dimensional Deterministic Freak Waves, Soren Peter Kjeldsen, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p677-694.

Breakwater Protects Asbury Park's Convention Hall, Alfred R. Pagan, (Coastal Structures '83, J. R. Weggel, ed., 1983), p186-192.

Weggi, ed., 1963, p100-12a. Breakwater Superstructures, Ole Juul Jensen, (Coastal Structures '83, J. R. Weggel, ed., 1983), p272-285. Combined Wave-Current Forces on Horizontal Cyl-inders, B. D. Chandler and J. B. Hinwood, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed.,

1983), p2171-2188.
Effects of Currents on Wave Drag and Inertia Loads,
Terence S. Hedges, (Coastal Structures '83, J. R.
Weggel, ed., 1983), p461-473.

Forces Induced by Breakers on Piles, Robert L. Wiegel, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1699-1715.

Forces on a Perforated Breakwater, Constantine D.

Memos and George C. Christodoulou, (Coastal Structures '83, J. R. Weggel, ed., 1983), p573-586. Hollow Block Breakwater Armor Units, A. R. Wilkinson and N. W. H. Allsop, (Coastal Structures '83, J. R. Weggel, ed., 1983), p208-221. Low-Crest Breakwaters, Studies in Random Waves, N.

W. H. Allsop, (Coastal Structures '83, J. R. Weggel,

ed., 1983), p94-107.

The Maximum Total Wave Forces on Pile Group, Dahong Qiu, (Coastal Structures '83, J. R Weggel, ed., 1983), p474-481.

Measurement Techniques for Moored Ship Dynamics,

Measurement Techniques for Moored sinp Dynamics, J. Moes and S. G. Holroyd, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2641-2661. The Model Study of a Cylindrical Pier Under Irregular Wave Action, Yi-Qing Sun and Hai-Gui Kang, (Coastal Structures '83, J. R. Weggel, ed., 1983),

Moored Ship Response in Irregular Waves, E. P. D. Mansard and B. D. Pratte, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2621-2640. Non-Linear Wave Forces on Floating Breakwaters, C.

T. Niwinski and M. De St. Q. Isaacson, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2009-2025. A Numerical Model of Wave/Breakwater Interactions.

D. Ian Austin and Roger S. Schlueter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2079-2096.

Pipeline Stability Under Finite-Amplitude Waves, Min-Chih Huang and Robert T. Hudspeth, WW May 82, p125-145.

Probabilistic Model of Wave Forces of Cylindrical Pile, Avinash M. Nafday and Hsiang Wang, WW May 83,

p147-163

Quasi-2-D Forces on Vertical Cylinder in Waves, Peter K. Stansby, Geoffrey N. Bullock and Ian Short, WW Feb. 83, p128-132.

Response Analysis of Offshore Structures, Kapil C. Barik and Velu Paramasivam, WW Nov. 83, p363-

Riprap Stability a Progress Report, Laurie Broderick, (Coastal Structures '83, J. R. Weggel, ed., 1983),

Secondary Pressures of Waves Breaking on Seawall, M. Salih Kirkgöz, WW Nov. 83, p487-490.
Ship Motions Related to Deep Draft Channel Design,

scott Noble, (Proceedings of Coastal Engineering 82,

Billy L. Edge, ed., 1983), p2662-2680.

Stochastic Response of Prototype Offshore Structure, Michael G. Grecco and Robert T. Hudspeth, ST May

83, p1119-1338.

Transient Stresses Induced in Sandbed by Wave Loading, Kenneth R. Demars, GT Apr. 83, p591-602. Vertical Vs. Horizontal Cylinders in Waves, John H. Nath, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p704-721.

Wave Data Discretization for Shore Line Processes Bernard Le Mehaute, John D. Wang and Chia-Chi

Lu, WW Feb. 83, p63-78.
Wave Forces on a Submerged Cylinder Near a Plane Boundary, N. Jothi Shankar, H. Raman and V. Sundar, (Coastal Structures '83, J. R. Weggel, ed., 1983), p492-504.

Wave Forces on Piles of Variable Diameter, Bernard LeMehaute, James Walker, John Headland and John

Wang, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1800-1819. Wave Loads on Vertical Sliding Gates Eastern-Scheldt

wave Loads on vertical sliding Gates Eastern-Scheidt Barrier, Frans C. Hamer, René M. Korthof, Han Ligteringen and Henk van de Weyde, (Coastal Structures '83, J. R. Weggel, ed., 1983), p551-561. Wave Run-Up at Sea Dikes under Oblique Wave Approach, E. Tautenhain, S. Kohlhase and H. W. Approach, E. Tautennam, S. Koninase and ri. w. Partenscky. (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p804-810.

Wave—Induced Forces on Buried Pipelines, Gerard P. Lennon, (Coastal Structures '83, J. R. Weggel, ed. 1983), p505-518.

Wave-Induced Ship Motions in Harbour Entrances—A

Field Study, A. C. van Wyk, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2681-2699. Wave-Induced Slides in South Pass Block 70, Missis-

sippi Delta, Robert G. Bea, Stephen G. Wright, Partha Sircar and Alan W. Niedoroda, GT Apr. 83,

West Breakwater-Sines Dynamic-geotechnical Stability of breakwaters, Frans B. J. Barends, Hans van der Kogel, Frans J. Uijttewaal and J. Hagenaar, (Coastal Structures '83, J. R. Weggel, ed., 1983), p31-44.

The Control of Wave Asymmetries in Random Waves, E. R. Funke and E. P. D. Mansard, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p725-744. Effect of Group-Induced Long Waves on Wave Runup, V. Barthel, E. P. D. Mansard and E. R. Funke, (Coastal Structures '83, J. R. Weggel, ed., 1983),

Modeling of Slide-Generated Waves in a Reservoir, M. Hanif Chaudry, Albert G. Mercer and David Cass,

HY Nov. 83, p1505-1520.

A New Approach to Transient Wave Generation, E. P. D. Mansard and E. R. Funke, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p710-724.

Wind-Wave Growth with High Friction, Fred E. Camfield, WW Feb. 83, p115-117.

Comparison of Manual Wave Prediction Models, Craig

T. Bishop, WW Feb. 83, pl-17.
Duration of Measurements and Long-Term Wave Statistics, Shen Wang and Bernard Le Mehaute, WW May 83, p236-249.

Engineering Approach to Nonlinear Wave Shoaling, James Walker and John Headland, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p523-542. A Field Study of Waves in the Nearshore Zone, S. Hotta, M. Mizuguchi and M. Isobe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p38-57.

Height Distribution of Estuarine Waves, V. Barthel, (Proceedings of Coastal Engineering 82, Vol. I, Billy L.

Edge, ed., 1983), pl36-153.

Irregular Wave Refraction Due to Current, Tetsuo Sakai, Masahiko Koseki and Yuichi Iwagaki, HY

Sakati, Masaniko Koseki and Yuichi Iwagaki, HY Sept. 83, p1203-1215.

Laboratory Photogrammetric Wave Height Measure-ment, J. D. Pos and F. A. Kilner, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p695-709.

Maximum Wave Force on a Height and Chilinder S. B.

Maximum Wave Force on a Horizontal Cylinder, S. P. Rai and M. H. Abdul Khader, (Coastal Structures '83,

J. R Weggel, ed., 1983), p482-491. Methodology for Calculating Wave Heights Associated with Storm Surges Utilized by the National Flood Insurance Program, William G. Fry and Perry E. Rhodes, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1991-2004. Prediction of Wave Height in Shallow Water, E. F.

Thompson and C. L. Vincent, (Coastal Structures '83,

J. R. Weggel, ed., 1983), p1000-1007.

Probability Density Function of Wave Heights off the Western Coast of Taiwan, Frederick L. W. Tang and Jea-Tzyy Juang, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p342-356. Study of Hurricane Waves around the Taiwan Coast, Hou Ho-Shong, S. C. Kuo and R. S. Tseng,

(Proceedings of Coastal Engineering 82, Vol. I, Billy L.

Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p270-281.

Wave Energy Variation Near Cape Town, South Africa, F. A. Shillington, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p473-484. Wave Height Distributions and Wave Grouping in Surf Zone, Hajime Mase and Yuichi Iwagaki, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p58-76. Wave measurement

Automated Digital Simulation of Tides & Long Waves, R. F. Henry, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p203-218.

Characteristics Method Using Time-Line Interpolations, David E. Goldberg and E. Benjamin Wylie,

HY May 83, p670-683. Comparison of Manual Wave Prediction Models, Craig

T. Bishop, WW Feb. 83, pl-17.

Duration of Measurements and Long-Term Wave Statistics, Shen Wang and Bernard Le Mehaute, WW May 83, p236-249.

A Field Study of Waves in the Nearshore Zone, S. Hotta, M. Mizuguchi and M. Isobe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p38-57.

Laboratory Photogrammetric Wave Height Measurement, J. D. Pos and F. A. Kilner, (*Proceedings of Coastal Engineering 82, Vol. I*, Billy L. Edge, ed., 1983), p695-709.

Measurmment of Velocities in Solitary Waves, Jiin-Jen Lee, James E. Skjelbreia and Fredric Raichlen, WW

May 82, p200-218.

New Equation of Surface Elevation in Wave Motion, Y. C. Ouyang, Y. Y. Chen and Frederick L. W. Tang, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p505-522. Second Order Theory of Manometer Wave Measure-

Wave height

ment, F. Biesel, (Proceedings of Coastal Engineering 32, Vol. I, Billy L, Edge, ed., 1983), p129-135.

Shore-Parallel Flows in a Barred Nearshore, Brian Greenwood and Douglas J. Sherman, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1677-1996.

Some Properties of Swell in the Southern Ocean, Jon B. Hinwood, Deane R. Blackman and Geoffrey T.

Hinwood, Deane R. Blackman and Georifey J. Lleonart, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p261-269. Study of Hurricane Waves around the Taiwan Coast, Hou Ho-Shong, S. C. Kuo and R. S. Tseng, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p357-369.

Wave pressure
Secondary Pressures of Waves Breaking on Seawall, M.
Salih Kirkgöz, WW Nov. 83, p487-490.
Wave-Induced Pore Pressures in Submerged Sand
Layer, Yuet Tsui and Steven C. Helfrich, GT Apr. 83, p603-618.

Wave-Induced Pressures on Buried Pipelines, Susan H. Davidson, William G. McDougal and Charles K. Sollitt, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p129-143.

Wave-Induced Seepage Effects on a Buried Pipeline, Peter L. Monkmeyer, Pierfrancesco Mantovani and Hugues Vincent, (Coastal Structures '83, J. R. Weggel, ed., 1983), p519-531.

Wave propagation
Boundary Conditions in Limited Area Simulation of Boundary Conditions in Limited Area simulation of Tidal Rivers, John P. Glass, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p324-329. Drilled-Shaft Integrity by Wave Propagation Method, Thomas M. Hearne, Tr., Kenneth H. Stokoe, II and Lyndon C. Reese, GT Oct. 81, p1327-1344.

Modeling of Slide-Generated Waves in a Reservoir, M.

Hanif Chaudry, Albert G. Mercer and David Cass, HY Nov. 83, p1505-1520.

On Wave Propagation and Fracture in Concrete Structures, Larsgunnar Nilsson, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p972-976.

A Transmitting Boundary for Discrete Methods, Z. P. Liao and H. L. Wong, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

p158-161.

Water Waves Propagating on Beaches of Arbitrary Slope, Y. Y. Chen and H. H. Hwung, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p811-822.

Wave Propagation in Plane Trusses and Frames, S. Abrate and C. T. Sun, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p351-354.

Wave reflection

Cylindrical Long Wave into a Cylindrical Shelf, Henry Power, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p228-244. Reflection and Transmission of Waves Through Ver-

retriction and transmission of waves through ver-tical Silt-Type Structures, Shohachi Kakuno, (Coastal Structures '83, J. R. Weggel, ed., 1983), p939-952. Reflection Characteristics of a Wave-Absorbing Pier, Javier Weckman, Gary N. Bigham and Robert O. Dixon, (Coastal Structures '83, J. R. Weggel, ed., 1983), e52-2660 1983), p953-960.

Theoretical Considerations on the Smith-Cundall-ET AL Boundary, Eduardo Kausel and Ziyad H. Duron, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Nectuation and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p154-157.

Wave Reflection From Coastal Structures, William N. Seeling, (Coastal Structures '83, J. R. Weggel, ed., 1981), 68217.

Wave refraction

1983), p961-973.
Wave Reflection from Undulating Seabed Topography, A. D. Heathershaw, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p543-554. A Computer Model for the Refraction on Non-Linear Waves, J. B. Crowley, C. A. Fleming and C. K. Cooper, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p384-403.

An Efficient Numerical Algorithm for Wave Refrac-tion/Shoaling Problems, Marc Perlin and Robert G. Dean, (Coastal Structures '83, J. R Weggel, ed., 1983),

p988-999

Irregular Wave Refraction Due to Current, Tetsuo Sakai, Masahiko Koseki and Yuichi Iwagaki, HY

Sept. 83, p1203-1215.
Longshore Currents with Wave Current Interaction, Robert A. Dalrymple, WW Aug. 80, p414-420.
Pipeline Shore Approach: Analysis and Design, Henry

H. Chang and Jorge Ford, TE Nov. 83, p853-867.
Refraction of Gravity Waves Using Global Spline
Collocation, J. M. Niedzwecki and D. A. Milburn, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1150-1153. Sedimentological Influences of Detached Breakwaters,

Dov Sergiu Rosen and Michael Vajda, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983),

p1930-1949.

Water-Wave Motion Around a Breakwater on a Slowly Varying Topography, Philip L-F Liu and Ting-Kuei Tsay, (Coastal Structures '83, J. R. Weggel, ed., 1983), p974-987.

Wave runuj

Effect of Group-Induced Long Waves on Wave Runup, V. Barthel, E. P. D. Mansard and E. R. Funke, (Coastal Structures '83, J. R. Weggel, ed., 1983), p911-924.

Irregular Wave Overtopping on Gravel Islands, Nobuhisa Kobayashi and Allan M. Reece, WW Nov.

83, p429-444.

Laboratory Study of Reef-Lagoon System Hydraulics, William N. Seelig, WW Nov. 83, p380-391. Wave Run-Up at Sea Dikes under Oblique Wave Approach, E. Tautenhain, S. Kohlhase and H. W.

Partenscky, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p804-810.

Wave Run-Up Caused by Natural Storm Surge Waves,

Joachim Grune, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p785-803. Wave Runup on Idealized Structures, John P. Ahrens,

(Coastal Structures '83, J. R. Weggel, ed., 1983), p925-938.

Wave spectra Analysis of Tidal Records of the 1964 Alaskan Tsunami, Basil W. Wilson, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p765-784

Irregular Wave Refraction Due to Current, Tetsuo Sakai, Masahiko Koseki and Yuichi Iwagaki, HY

Sept. 83, p1203-1215.

Nearshore Wave Spectra Measured during Hurricane
David, Michel K. Ochi and Ming-Hsing Chiu, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p77-86.

Sloping Float Breakwater Model Study, Robert D. Carver and D. Donald Davidson, (Coastal Structures

Some Properties of Swell in the Southern Ocean, Jon B. Hinwood, Deane R. Blackman and Geoffrey Lleonart, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p261-269.

Wave spectrum

Response Spectrum Approach to Design for Waves, A. S. Veletsos, G. Hahn and R. Bordinhao, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p295-298.

Wave temperature Nearshore Bottom-Mounted OTEC Platforms and Pipes, Steve Bailey, Colin Moore and Luis Vega, (Coastal Structures '83, J. R Weggel, ed., 1983), p587-600.

Wave velocity

Measurmment of Velocities in Solitary Waves, Jiin-Jen ee, James E. Skjelbreia and Fredric Raichlen, WW May 82, p200-218.

Waves

Measurement Techniques for Moored Ship Dynamics, J. Moes and S. G. Holroyd, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2641-2661. Moored Ship Response in Irregular Waves, E. P. D.

Mansard and B. D. Pratte, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2621-2640. On the Relation between Changes in Integral Quantities

of Shoaling Waves and Breaking Inception, Takashi Yasuda. Shintaro Goto and Yoshito Tsuchiya. (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p22-37.

On the Variation of Characteristics of Two Wave

Trains Crossing in Intermediate Depth, H. H. Hwung and C. P. Tsai, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p862-886.

Oscillatory Model for Wall-Bounded Turbulence, Enso

Levi, EM June 83, p728-740.

Piles as Barriers for Elastic Waves, Javier Aviles and Francisco J. Sanchez-Sesma, GT Sept. 83, p1133-

Turbulence Generated by Wave Breaking on Beach, T. Sakai, Y. Inada and I. Sandanbata, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p3-21. Unusual Waves on European Coasts, February 1979, Laurence Draper and T. M. Bownass, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,

1983), p270-281.

Wave and Earthquake Response of Offshore Struc-tures: Evaluation of Modal Solutions, Stavros A. Anagnostopoulos, ST Oct. 82, P2175-2191. Wave Power Estimates Utilizing Ocean Wave Spectra,

John M. Niedzwecki, EY Dec. 83, p222-235

Ice and Snow Utilization in Cold Regions Construction, Kelly Crick and John D. McClellan, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p24-31.

Weather data

Automated Weather Data Network for Agriculture, Kenneth G. Hubbard, Norman J. Rosenberg and David C. Nielsen, WR July 83, p213-222.

Weather modification

Governmental Roles in Planned Weather Modifications, Stanley A. Changnon, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p344-351. Guidelines for Cloud Seeding to Augment Precipitation,

Committee on Weather Modification of the Irrigation and Drainage Division, IR March 83, p111-182. Proceedings of the Specialty Conference on Advances

in Irrigation and Drainage: Surviving External Pressures, John Borrelli, ed., Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp. Revised Rainfall Frequency Analysis for Houston, Tracey C. Bouvette, Jeff L. Lambert and Philip B.

Bedient, HY April 82, p515-528.

State/Federal Cooperative Programs in Weather Modification, Joseph A. Warburton, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p360-367 Weather Modification Potential for Arizona, Larry C.

Beddome, (Advances in Irrigation and Drainage, John

Borrelli, ed., 1983), p352-359.

Weather Station Siting and Consumptive Use Estimates, Richard G. Allen, Charles E. Brockway and James L. Wright, WR Apr. 83, p134-136.

Fatigue of 8-yr Weathered A588 Steel Weldment, Pedro Albrecht and Jian-Guo Cheng, ST Sept. 83, p2048-

Strength of Composite Beams at Web Openings, William C. Clawson and David Darwin, ST March 82, p623-641.

Webs, supports

Statistical Study on Imperfections of Steel Webs, Sadao Komatsu, Yoshiji Niwa and Eiichi Watanabe, ST Feb. 83, p419-438.
Strength and Serviceability of Steel Girder Webs, Nigel Cooke, Warren R. Walpole, Peter J. Moss, D. Wayne Langdon and Mervyn H. Harvey, ST March 83, p785-807.

Theoretical Model for Collapse of Shear Webs, Cedric Marsh, EM Oct. 82, p819-832.

Wedges
The Rapid Tearing of a Wedge, J. P. Dempsey and E. B. Smith, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p471-474.

Delenda Est Kilogram, Richard C. Gerke, El Apr. 81, p81-83.

Weirs The Design and Performance of a Weir at Boca Raton Inlet, Florida, Richard H. Spadoni, Norman H. Beumel and Thomas J. Campbell, (Coastal Structures

Beumei and 1 nomas J. Campbell, (Castal Structures '83, J. R. Weggel, ed., 1983), p894-901.

The Design of Weir Sand By-Passing Systems, J. Richard Weggel, (Coastal Structures '83, J. R. Weggel, ed., 1983), p860-875.

Hydraulics of Plane Free Overfall, Willi H. Hager, HY

Physical Model Study of Weir Jetty Design, William C. Seabergh, (Coastal Structures '83, J. R. Weggel, ed., 1983), p876-893.

Small Stream Channel Dam Aeration Characteristics, Thomas A. Butts and Ralph L. Evans, EE June 83, p555-573.

e V-Shaped Broad-Crested Weir, Wubbo Boiten and Remmet H. Pitlo, IR June 82, p142-160.

Welded joints

Experimental and Analytical Investigation of Corrosion Fatigue Behaviour of Monopod Tubular Joints, S. S. Gowda, M. Arockiasamy, D. B. Muggeridge and D. V. Reddy, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p593-596.

Probabilistic Evaluation of Welded Structures,

Achintya Haldar, ST Sept. 82, p1943-1955.

Reliability-Based Progressive Fatigue Collapse, Scott G. Martindale and Paul H. Wirsching, ST Aug. 83, p1792-1811.

Welded pipes
Metropolitan Water District San Diego Pipeline 5, Gary M. Snyder and William P. Lundy, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p25-33.

Probabilistic Evaluation of Welded Structures. Achintya Haldar, ST Sept. 82, p1943-1955. Underwater Welded Dock Repairs, Richard N. Fulton,

(Proceedings of Ports 83, Kong Wong, ed., 1983), p678-689.

Analytical Models for Steel Connections, R. M. Richard, D. A. Rabern, D. E. Hormby and G. C. Williams, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds.,

Benavior of Metal Structures, W. J. Hall, et al, eds., 1983), p128-155.

Fatigue Research at the University of Illinois, William J. Hall, Frederick V. Lawrence and James E. Stallmeyer, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al,

eds., 1983), p3-23.

Optimum Design of Welded Steel Columns, Metwally Abo-Hamd, ST Nov. 83, p2503-2510. Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, ed. and M. P. Gaus,

ed., 1983, 218pp.

Welds

Effect of Peening on Fatigue Life of Welded Details, Hans Hausammann, John W. Fisher and Ben T. Yen, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p70-83.

Fatigue Damage Assessment of Welded Structures, Mark D. Bowman and James T. P. Yao, (Proceedings of the W. H. Murse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p45-69. Stress Intensity Factors for Welded Bridge Details, Richard Roberts and John W. Fisher, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p805-808.

Analysis of the Impacts of a Hazardous Waste Disposal Site on a Public Water Supply Well Field, David A. Woodruff, Richard J. Hughto and Brendan M. Harley, (National Conference on Environmental En-gineering, Allen Medine, et al, eds., 1983), p751-757. Cooling Water Supply-Disposal in Coastal Aquifer, Masanobu R. Fujioka and Akshai K. Runchal, EY

June 83, p88-102.

Field Evaluation of Air-Stripping Processes for Organic Contaminant Removal from Ground Water, Walter Contaminant Kemovai Irom Ground water, water A. Feige and Dominick D. Ruggiero, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p32-33.

Ground-Water Management in Western Kansas, Edward D. Jenkins, HY Oct. 83, p1314-1322.

Ion Exchange and Membrane Processes for Nitrate

Removal from Water, Dennis Clifford and Chieh-Chien Lin, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p14-23.
Spacing of Wells for Heat Pumps, Calvin G. Clyde and Govindachari V. Madabhushi, WR July 83, p203-212.

Anchorage Wetlands Management Plan, Dan Creven-sten, Bruce G. Phelps, Wayne Pichon and Tony Burns, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p380-391.

An Assessment of Salt Marsh Restoration and Implications for Coastal Zone Management, Margaret S. Race, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), p1473-1476.

California Coastal Salt Marsh Restoration Design, Philip B. Williams and H. Thomas Harvey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1444-1456.

Coastal Wetlands for Water Resources Management. R. Gregory Bourne and Craig H. Wolfgang, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p1457-1472.

Coastal Zone '83, Orville T. Magoon, ed. and Hugh Converse, ed., 1983, 2918pp

Determining Long-Term Stability of Coastal Ecosystems, Arthur R. Benton, Jr. and Wallace W. Snell, (Coastal Zone '83, Orville T. Magoon, et al, eds.,

1983), p392-407.

Dune Building and Vegetative Stabilization in a Sand Deficient Barrier Island Environment, I. A. Mendelssohn, J. W. Jordan, F. Talbot and C. J. Starkovich, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p601-619.

Innovative Estuarine Restoration and Management, Scott McCreary and John Zentner, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2527-2551. New Directions in Restoration of Coastal Wetlands,

Jens Sorensen and Susa Gates, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1427-1443.

A Practical Evaluative Procedure for the Design of Coastal Wetland Restoration Projects, David D. Smith, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1477-1487.

Resource Management in the Suwannee River Estuary, Christopher J. Leadon, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1846-1864.
Salt Marsh Restoration: The Experimental Approach, Joy B. Zedler, (Coastal Zone '83, Orville T. Magoon,

et al, eds., 1983), p2578-2586.

Title Settlements in San Francisco Bay Historic Wetlands Using the Land Bank Method, Michael R. Valentine, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p456-474.

Trends in Atlantic and Gulf Coastal Wetlands, John M. Hefner, James D. Brown and Bill O. Wilen, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p372-379.

The Use of a GIS for Gulf of Mexico Wetland Change, James B. Johnston and Robert R. Ader, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

p362-371.

Wetland Regulation in California: A Review, Mar Laurel Marcus, Nona B. Dennis and Harriet L. Hill, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2725-2738.

1916 Wharf Tested and Used to Accommodate New Shiploading System, A. James Siebert, III, (Proceedings of Ports 83, Kong Wong, ed., 1983), p512-526.

Advances in Geotechnical Engineering for Marine Terminal Facilities, E. E. Rinne, W. H. Roth and R. M. Moline, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p284-298.

Building a Port under Unusual Site Conditions, S. K. Sarkar, G. A. Munfakh and R. J. Castelli, (Proceedings of Ports 83, Kong Wong, ed., 1983), p269-283.

Corrosion of Steel Sheet Piles in Port Structures, Valery

Buslov, WW Aug. 83, p273-295.

Expansion of Natchez-Adams County Port, C. Carter Brown, C. Dale Buckner and Charles Costner, (Proceedings of Ports 83, Kong Wong, ed., 1983), p379-388.

Port of New Orleans Upgrading of Facilities at First Street Wharf, Alan Francingues and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983),

p352-363.

Ports '83, Brenton T. Morse, Jr., CE April 83, p28. Proceedings of Ports 83, Kong Wong, ed., 1983, 832pp. Rehabilitation of a Wharf, H. Thomas Kornegay and Klaus Von Dobeneck, (Proceedings of Ports 83, Kong Wong, ed., 1983), p749-757.

Rehabilitation of Cyclopean Concrete Wharf, Rodney P. Lundin, (Proceedings of Ports 83, Kong Wong, ed.,

1983), p816-827

Upgrading of Facilities at Napoleon Avenue Wharves, Alfonso Arsuaga and Kong Wong, (Proceedings of Ports 83, Kong Wong, ed., 1983), p343-351. Wharf Decks - Design Load vs. Cost, Ralph W. Junius, (Proceedings of Ports 83, Kong Wong, ed., 1983).

p570-583

Wharf Design and Construction - Port of Oakland, George C. Fotinos, Gerald M. Serventi and Yasuyuki Toda, (Proceedings of Ports 83, Kong Wong, ed., 1983), p141-151.

Wharf Rehabilitation Rodney Terminal Port of Saint John, New Brunswick, Canada, Garnet A. Phinney and S. Reid Giffin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p456-470.

Wide Flange Concrete Sheet Pile Wharves, Alexander Matlin, (Proceedings of Ports 83, Kong Wong, ed., 1983), p389-401.

Wick drains

Fabric Layers Stabilize Soils for Roadway Expansion, CE July 83, p24.

Wildlife habitats

A Planning Approach to Critical Habitat Protection, Steven L. Pollock and Alan W. Avery, Jr., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p749-768.

Resource Management in the Suwannee River Estuary. Christopher J. Leadon, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1846-1864.

Wildlife management

New Directions in Restoration of Coastal Wetlands, Jens Sorensen and Susa Gates, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1427-1443.

Wind

The Coastal Wind Field of the Southern Cape, Ian Tyrrell Hunter, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2551-2561.

Free and Forced Convection Effects on Evaporation, Ben L. Sill, HY Sept. 83, p1216-1231. Short-Term Records and Extreme Wind Speeds, Emil

Simiu, James J. Filliben and James R. Shaver, ST

Nov. 82, p2571-2577.

Tridimensional Numerical Model for Tidal and Wind Generated Flow, M. C. Burg, A. Warluzel and Y. Coeffe, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p635-651.

Wind direction
Wind Direction and Structural Reliability, Yi-Kwei Wen, ST Apr. 83, p1028-1041.

Active Control of Tall Buildings, Mohamed Abdel-Rohman and Horst H. Leipholz, ST March 83, p628-645

Alongwind Response Estimation: Closed Form Solution, Giovanni Solari, ST Jan. 82, p225-244. Alongwind Response Estimation: Structural Classifi-cation, Giovanni Solari, ST Feb. 83, p575-580.

Local Wind Forcing and Small Scale Upwelling, Cairns

Local Wind Forcing and Small Scale Upwelling, Carins A. R. Bain, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p.2390-2402.

Octagonal Framed Tube Office Building: A Case History, James S. Notch, ST Dec. 83, p.2872-2892.

Procedure for Predicting Wind Damage to Buildings, Kiphor C. Mehte Jawes B. McDonald and Doubles Kiphor C. Mehte Jawes B. McDonald and Doubles Kishor C. Mehta, James R. McDonald and Douglas A. Smith, ST Nov. 81, p2089-2096. Wind Direction and Structural Reliability, Yi-Kwei

Wen, ST Apr. 83, p1028-1041.
Wind Tunnel Design for Physical Modeling of Atmospheric Boundary Layers, Jack E. Cermak, EM June 81, p623-642.

Wind loads

Adverse Local Wind Loads Induced by Adjacent Building, David Surry and William Mallais, ST March 83, p816-820. Aerodynamic Coefficients and Risk-Consistent Design,

Emil Simiu, ST May 83, p1278-1289.

Alongwind Response Estimation: Closed Form Solu-

Alongwind Response Estimation: Closed Form Solution, Giovanni Solari, ST Jan. 82, p225-244.

Approximate Method for Lateral Load Analysis of High Rise Buildings, Fernand K. E. C. Mortelmans, Guido P. M. J. De Roeck and Dionys A. Van Gemert, ST Aug. 81, p1589-1610.

Characteristics of Pressure Fluctuations on the Wind-

ward and Leeward Faces of a Tall Building Model, ward and Decward Faces of a fail building Mode-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1228-1231. Control of Tall Buildings in Along-Wind Motion, J. N. Yang and B. Samali, ST Jan. 83, p50-68.

Cooling Towers on Flexible Foundations, Julian A. Dumitrescu, James G. Croll and David P. Billington, ST Oct. 83, p2248-2264

ST Oct. 83, p2248-2264.
Design for Pipeline Wind Vibration in Arctic Areas, Yee Kwok Lee, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p375-386.
Distribution and Correlation of Dynamic Wind Loads, Timothy A. Reinhold, EM Dec. 83, p1419-1436.
Fluctuating Wind Pressures on Low Building Roofs, Theodore Stathopoulos, ST Jan. 83, p266-271.
Glass Cladding Design for Wind, D. A. Reed and Emilsimiu, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen et al, eds., 1983), p726-729.
Internal Pressure of Multi-Room Buildings, Patrick J. Saathoff and Henry M. Liu, EM June 83, p908-919.
Multimode Bridge Response to Wind Excitations, Y. K.

Multimode Bridge Response to Wind Excitations, Y. K. Lin and J. N. Yang, EM Apr. 83, p586-603. Probabilistic Analysis of Tornado Wind Risks, Law-rence A. Twisdale and William L. Dunn, ST Feb. 83,

Professional Organization for Wind Engineering, CE

Feb. 83, p12. Reliability Design of Transmission Lines for Wind, H. Scott Norville, Kishor C. Mehta and W. Pennington Vann, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p887-890.

Reliability of Concrete Chimneys under Wind Loading, A. Kareem and J. Hseih, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p928-931.

Semi-Active versus Passive or Active Tuned Mass Dampers for Structural Control, Davorin Hrovat, Pinhas Barak and Michael Rabins, EM June 83,

p691-705.

Simple Measurement Techniques for Area Wind Loads, David Surry, Theodore Stathopoulos and Alan G. Davenport, EM Aug. 83, p1058-1071. Time Series Analysis of Cooling Tower Wind Loading, D. Aubrey Reed and Robert H. Scanlan, ST Feb. 83,

p538-554.

Wind Loading Risks from Multivortex Tornadoes, Lawrence A. Twisdale and William L. Dunn, ST Aug. 83, p2016-2022.

Wind Loads on Eaves of Low Buildings, Theodore Stathopoulas, ST Oct. 81, p1921-1934.

Gantiopoutas, 51 Cct. 81, p1921-1934. Wind Turbulence over Seas in Tropical Cyclones, W. H. Melbourne and D. R. Blackman, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p370-383.

1983), p.31/0-38.
Wind-Buckling Approach for R/C Cooling Towers, Wolfgang Zerna, Ihsan Mungan and Walter Steffen, EM June 83, p.836-848.
Wind-Induced Cladding Loads in Hurricane-Prone Regions, Emil Simiu and Martin E. Batts, ST Jan. 83, p.262-266.

Wind, meteorology
Generalized Wind Speed Probability Distribution,
Karen C. Chou and Ross B. Corotis, EM Feb. 83,

Tennessee Valley Extreme Wind Speed Climatology, Donald W. Newton, M. Lawrence Nicodemus and Nathaniel B. Guttman, HY Aug. 83, p1093-1107.

Fluctuating Wind Pressures on Low Building Roofs, Theodore Stathopoulos, ST Jan. 83, p266-271. Internal Pressure and Building Safety, Henry Liu and Patrick J. Saathoff, ST Oct. 82, p2223-2234.

Response to Wind Action of 265-m Mount Isa Stack, William H. Melbourne, John C. K. Cheung and Charles R. Goddard, ST Nov. 83, p2561-2577. Wind Pressures on Low Buildings with Parapets, Theodore Stathopoulos, ST Dec. 82, p2723-2736.

Wind speed Blown Sand on Beaches, Susumu Kubota, Kiyoshi Horikawa and Shintaro Hotta, (Proceedings of Coast-al Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1181-1198.

Estimates of Design Wind from Short Records, Mircea Grigoriu, ST May 82, p1034-1048. Generalized Wind Speed Probability Distribution, Karen C. Chou and Ross B. Corotis, EM Feb. 83,

p14-29. Probability Distribution of Typical Wind Speeds, Karen C. Chou and Ross B. Corotis, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p883-886.

1963-00.
Response to Wind Action of 265-m Mount Isa Stack, William H. Melbourne, John C. K. Cheung and Charles R. Goddard, ST Nov. 83, p2561-2577.
Short-Term Records and Extreme Wind Speeds, Emil

Short-term Records and Extreme wind speeds, Emilsimiu, James J. Filliben and James R. Shaver, ST Nov. 82, p2571-2577. Wind Speed-Damage Correlation in Hurricane Fred-eric, K. C. Mehta, J. E. Minor and T. A. Reinhold, ST Jan. 83, p37-49. Wind-Induced Response of Golden Gate Bridge, Hiroshi Tanaka and Alan G. Davenport, EM Feb. 83, p36-312.

83, p296-312.

Wind tunnel models
Adverse Local Wind Loads Induced by Adjacent
Building, David Surry and William Mallais, ST Building, David Sur March 83, p816-820.

Distribution and Correlation of Dynamic Wind Loads, Timothy A. Reinhold, EM Dec. 83, p1419-1436. A New Wind Tunnel for Building Aerodynamics, T. Stathopoulos, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p613-616.

Simple Measurement Techniques for Area Wind Loads,

Simple Measurement Ferniques for Area wind Loads, David Surry, Theodore Stathopoulos and Alan G. Davenport, EM Aug. 83, p1058-1071. Wind Tunnel Design for Physical Modeling of Atmos-pheric Boundary Layers, Jack E. Cermak, EM June 81, p623-642.

Wind tunnel test

Wind Pressures on Low Buildings with Parapets, Theodore Stathopoulos, ST Dec. 82, p2723-2736.

Wind tunnel tests

Aeroelastic Simulation of Bridges, Robert H. Scanlan,

ST Dec. 83, p2829-2837.

Generation and Control of Turbulence by a Pulsating Grid, B. Bienkiewicz, (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1238-1241. Incipient Motion of Sand Particles on Side Slopes, Syunsuke Ikeda, HY Jan. 82, p95-114. Mutual Interference Drag on Signs and Luminaires, James F. Marchman, III. and Todd D. Werme, ST

Oct. 82, p2235-2244.

Response of Taut Strip Models to Turbulent Wind, Hiroshi Tanaka and Alan G. Davenport, EM Feb. 82, p33-49.

Wind velocity
Generalized Wind Speed Probability Distribution,
Karen C. Chou and Ross B. Corotis, EM Feb. 83,

Wind Effects on Gas-Liquid Transfer Coefficients, Donald J. O'Connor, EE June 83, p731-752.

A Failure Theory for Window Glass Plates, H. Scott Norville and Joseph E. Minor, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1001-1004.

Wire rope Simplified Bending Theory for Wire Rope, George A. Costello and Gary J. Butson, EM April 82, p219-227.

Constructive Suggestions for Construction Success, Celia Ruiz Tomlinson, CE Jan. 83, p73-76.

ASCE North Carolina Section Conducts Study on Wood-Burning Appliances, CE June 83, p68.

Bibliography on Lumber and Wood Panel Diaphragms,

John Peterson, ST Dec. 83, p2838-2852. Bolted Wood-Joint Yield Model, Thomas E. McLain

and Surot Thangjitham, ST Aug. 83, p1820-1835. Concomitant Strength Relationship for Lumber, Robert J. Tichy, ST Aug. 83, p1854-1868. Criterion for Mixed Mode Fracture in Wood, S. Mall,

Joseph F. Murphy and James E. Shottafer, EM June

83, p680-690.

Strength Model for Wood Structural Members, Steven Cramer and James R. Goodman, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p737-749.

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Anthony, J. Marshall

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Evaluation of Completed Projects—Why Is It Impor-tant?, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p6-19

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Creep Interaction of Salt and a Concrete Ring Structure, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), with William T. Li, Kenneth M. S. Mark and Ching-Liu Wu, p687-690

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Federal Consistency—Practice and Potential, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p1278-1288

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Arndt, Roger E. A.

Cavitation in Turbulent Shear Flows: An Overview, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p412

Arnold, Richard

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Arockiasamy, M.

see Gowda, S. S., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al. eds., 1983), p593-596

see Kibler, David F., (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p553-558

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see Jubinville, Richard A., (Pipelines in Adverse Envi-ronments II, Mark Pickell, ed., 1983), p552-562

Upgrading of Facilities at Napoleon Avenue Wharves, Proceedings of Ports 83, Kong Wong, ed., 1983), with Kong Wong, p343-351

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Evaluation of the Accuracy in Velocity Measurement in Alluvial Rivers, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1258-1261

Asaska, Wayne S.

Concrete and Soil-Cement for Shore Protection in the Province of Quebec, (Coastal Structures '83, J. R. Weggel, ed., 1983), with George H. Cameron, p356-369

The Role of Marine Fenders for Repairing, Upgrading,

and/or Rehabilitating Existing Facilities, (Proceedings of Ports 83, Kong Wong, ed., 1983), with Toshitaka Ohtsuka, p543-554

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A.S.C.E. Task Committee on the Documentation of Hydraulic Software, chmn.)

Documentation of Hydraulic Software, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p301-305

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see Jayachandran, P., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p146-149

Power Reduced by Sludge Process Modifications, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Tom Dittman and Diem Vuong, p731-735

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Critical Decision Making During Construction, with Kazuyoshi Uehara and Burke E. Robinson, CO June 83, p146-162

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First-Generation Model of Ice Deterioration, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983). p273-278

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Rates of Coastal Bluff Retreat: Pismo Beach, California, (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983), p1195-1207

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(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p718-721

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Kinetics of the Rotating Biological Contactor, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Jack A. Borchardt, p255-263

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disc. (of Urban Runoff Quality: Information Needs, b Michael B. Sonnen, TC Aug. 80, p29-40), TC May 82, p182-184

Atkin, David

Environmental Aspects of an Offshore Coal Terminal, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Andrew T. Zador, p997-1014

Entrainment in a Thermohaline Double-Diffusive System, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with D. R. F. Harleman, p8-14

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see Schwartz, Charles W., GT Sept. 82, p1186-1191

Babbitt, Donald H. California's Seismic Reevaluation of Embankment Dams, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), with William J. Bennett and Raymond D. Hart, p96-112

Babcock, S. M.

Application of a Plasticity Model to Concrete, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with H. L. Schreyer, p960-963

Baber, Thomas T. Non-Zero Mean Random Response of Yielding Systems, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p267-270

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see Narayana, Dhruva V. V., IR Dec. 83, p419-434

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Regulation and Offshore Oil and Gas Facilities, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), with David Morycz, Suzanne Phinney and Stephen Kahane, p36-39

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Computed Sediment Transport Rates Using Time-Dependent Bed Shear, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p604

Baguelin, Francois

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Cold Weather Effects on Underground Pipeline Failures, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Tuncer B. Edil, p579-593

Baler, Joseph H.
Groundwater Contamination from Agricultural Chemicals: North Fork, Suffolk County, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Sy F. Robbins, p1-13

Bailard, James A

Modeling On-Offshore Sediment Transport in the Surfzone, (Proceedings of Coastal Engineering 83, Vol. II, Billy L. Edge, ed., 1983), p1419-1438

Bailey, Bruce

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Nearshore Bottom-Mounted OTEC Platforms and Pipes, (Coastal Structures '83, J. R Weggel, ed., 1983), with Colin Moore and Luis Vega, p587-600

Bain, Cairns A. R.

Local Wind Forcing and Small Scale Upwelling, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2390-2402

Baird, Brian E.

California's Oil Spill Response Capability: Is It Adequate?, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1402-1410

Baird, W. F. see Hall, K. R., (Coastal Structures '83, J. R. Weggel, ed., 1983), p157-170

Bajaj, A. K. Some Interactions in Flow-Induced Motions of Tubes. (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p193-196

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Habiganj-Ashuganj Pipeline Project-An Insignia of Appropriate Pipeline Technology for Bangladesh and the Near East, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p16-24

Baldwin, Richard

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Balendra, Thambirajah A Simple Dynamic Model for Asymmetrical Buildings, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Seng-Lip Lee, p633-645

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see Wallace, J. M., (Recent Advances in Engineering
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Managing Conflict in the Coastal Zone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Charlotte Symons, p1330-1339

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Bandyopadhyay, Sudipta

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The LPC Pressiopenetrometer, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Jean-Francois Jezequel, p203-219

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Geology and Soil Properties of Winnipeg, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with James Graham, Bruce H. Kjartanson and Donald H. Shields, p39-56

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Barends, Frans B. J.

West Breakwater-Sines Dynamic-geotechnical Stability of breakwaters, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Hans van der Kogel, Frans J. Uijttewaal and J. Hagenaar, p31-44

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Response Analysis of Offshore Structures, with Velu Paramasivam, WW Nov. 83, p363-379

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Local Endangered Species Preservation Palm Bay, Florida, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Kevin McMillian and Todd Gipe, p769-782

Barnett, K. A.

Durban Beaches Reclamation: Practical Aspects, (Pro-

ceedings of Coastal Engineering 82, Billy L. Edge. ed.. 1983), p1970-1991

tarnett, T. P.

Global Sea Level: Estimating and Explaining Apparent Changes, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2777

Barnett, William B.

see McConnell, Linda K., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p419-425

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Barrett, Sandra

Coordination for Coastal Hazard Response, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2571-2577

Developing a Coastal Management Constituency, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2163-2172

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Jetty 8 Renovations CFB Dockyard, Halifax, N.S. (Proceedings of Ports 83, Kong Wong, ed., 1983),

Barth, Edwin F.

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Effect of Group-Induced Long Waves on Wave Runup, (Coastal Structures '83, J. R. Weggel, ed., 1983), with E. P. D. Mansard and E. R. Funke, p911-924 Height Distribution of Estuarine Waves, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p136-153

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see Peterson, Roy C., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p766-774

Barton, Furman W. Straightening of Inelastically Deformed Bars, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Richard T. Eppink, p722-725

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see Fleming, John F., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p580-593

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Baumli, George R., ed. Principles of Project Formulation for Irrigation and Drainage Projects, 1982, 144pp.

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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p339-342

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Vol. 1, Billy L. Edge, ed., 1983), p823-831

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Field Investigation of Longshore Transport Distribution, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with R. G. Dean, p1620-1639

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Generation and Control of Turbulence by a Pulsating Grid, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1238-1241

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Second Order Theory of Manometer Wave Measurement, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p129-135

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Magoon, et al, eds., 1983), p2846-2857 Bin-Mau Lin, Brian see Demetsky, Michael J., TE July 82, p313-327

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Priority Pollutants in the Mississippi River Near St. Louis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Bernard A. Rains and David R. Mahaffay, p589

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Integral Properties for Vocoidal Theory and Applications, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p887-900

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A Farmer Operated Irrigation Scheduling Procedure, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with Robert W. Hill, p259-266

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Procedures for Analysis of Laterally Loaded Pile Groups in Soft Clay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Hudson Matlock, p499-535

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Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Theodore Nicholas, p644-647

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see Thoem, Robert L., (Pipelines in Adverse Environ-ments II, Mark Pickell, ed., 1983), p279-290

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Computer Method in Hydraulics, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p591-592

Booker, John R.

1-D Consolidation of Periodically Layered Soil, with R. Kerry Rowe, EM Dec. 83, p1319-1333

Bookter, Todd J.

Stabilization of Solid Waste in Landfills, with Robert K. Ham, EE Dec. 82, p1089-1100 err: EE Aug. 83, p989

Borah, Deva K.

Beach Evolution Caused by Littoral Drift Barrier, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Armando Balloffet, p690-702

Routing Graded Sediments in Streams: Formulations with Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1486-1503 err: HY Nov. 83, p1574

Routing Graded Sediments in Streams: Applications, with Carlos V. Alonso and Shyam N. Prasad, HY Dec. 82, p1504-1517 err: HY Nov. 83, p1575

Borchardt, Jack A. see Atasi, Khalil Z., (National Conference on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), p255-263

Borcherding, John D. see Laufer, Alexander, CO Dec. 81, p745-756

Bordinhao, R.

see Veletsos, A. S., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p295-298

see Langhaar, H. L., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p226-229

see Langhaar, H. L., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p230-233

see Zimmerman, M., (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p722-736

Born, Robert H.

see Cooper, Jeffrey M., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p454

see Graf, J. D., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p368-376

Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures, with Victor R. Hasfurther, ed. and Robert D. Burman, ed., 1983, 558pp.

Bos, Marinus G. disc. (of The V-Shaped Broad-Crested Weir, by Wubbo Boiten and Remmet H. Pitlo, IR June 82, p142-160), IR June 83, p290-293

Bosching, Fritz

Analogous Dispension Properties of Surf Zone and Electromagnetic Waves, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p154-171

Bose, Bishwanath

see Coull, Alexander, ST May 82, p1140-1153

Bosli, Farrid

see Ossenbruggen, Paul J., (National Conference on Environmental Engineering, Allen Medine, et al. eds., 1983), p89-96

Bosman, D. E. A Survey of Man-Made Tidal Swimming Pools Along the South African Coast. (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with D. J. P. Scholtz, p2504-2513

Botes, W. A. M.

Resonance in South African Harbours, (*Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed.,* 1983), with K. S. Russell and P. Huizinga, p439-453

Boughton, Walter C.

Fitting Procedures for the Log-Boughton Distribution, with Edward D. Shirley, HY Apr. 83, p579-589

Bourne, R. Gregory
Coastal Wetlands for Water Resources Management,
(Coastal Zone '83, Orville T. Magoon, et al, eds.,
1983), with Craig H. Wolfgang, p1457-1472

Bourquin, R. H., Jr. Cofiring of RDF at the C. P. Crane Station: 1980 Test Results and Future Plans, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p853-860

Bouvette, Tracey C. Revised Rainfall Frequency Analysis for Houston, with Jeff L. Lambert and Philip B. Bedient, HY April 82,

disc: Michael A. Collins, HY June 83, p928-930 clo: HY June 83, p930-932

Bouvette, Tracy C.

see Bedient, Philip B., EE Apr. 83, p485-501

Bouwer, Herman

Effect of Irrigated Agriculture on Groundwater, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p175-182
see Sabol, George V., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p192-199

Sludge Conditioning and Particle Size Distribution, (National Conference on Environmental Engineering Allen Medine, et al, eds., 1983), with Thomas M. Keinath, p391-398

Introduction to the Opening Session, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p1-2

Bowie, G. L.

see Porcella, D. B., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p797-804

Bowlby, William

Prediction of Highway Construction Noise Levels, with Louis F. Cohn, CO June 83, p163-180 see Cohn, Louis F., TE March 83, p179-195

Bowles, Joseph E.

Pile Cap Analysis, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p102-113

Bowman, D.

see Goldsmith, V., (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p941-953

Fatigue Damage Assessment of Welded Structures, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), with James T. P. Yao, p45-69 Bownass, T. M.

see Draper, Laurence, (Proceedings of Coastal Engi-neering 82, Vol. I. Billy L. Edge, ed., 1983). p270-281

Boybay, Mustafa

Hydraulic Cement from Fly Ash and Phosphoric Acid, with Turgut Demirel, TE July 83, p506-518

Boyle, William C.

Biological Fouling of Fine Bubble Diffusers: Stateof-Art, with David T. Redmon, EE Oct. 83, p991-

Boyt, William L.

see Dortch, Mark S., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p21-26

Braaten, Bruce C.

see Frevert, Donald K., IR June 83, p265-270

Bradford, Joe M.

Stress-Deformation Properties of Loess and Loess-Derived Alluvium in Western Iowa, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with L. Darrell Norton, p99-120

Bradford, Mark A.

Lateral Stability of Beams on Seats, with Nicholas S. Trahair, ST Sept. 83, p2212-2215

Bradley, Earl H., Jr.

Integration of Coastal Zone Management Concerns at the Local Government Level in Maryland, (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983). p1340-1351

Brakensiek, Donald L.

Green-Ampt Infiltration Model Parameters for Hydrologic Classification of Soils, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with Walter J. Rawls, p226-233

see Rawls, Walter J., HY Jan. 83, p62-70

Brand, Peter S.

Community Participation on California's Coast, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983),

Brandl Ernest D.

Tiebacks for Waterfront Bulkheads, (Proceedings of Ports 83, Kong Wong, ed., 1983), with John S. Davis and Robert C. Houghton, p200-213

Branstetter, Linda J.

Deformation Effects of Random Salt Creep Variation, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Raymond D. Krieg and Charles M. Stone, p1063-1066

Brassow, Carl L.

see Ahmed, Syed, TE Jan. 81, p45-58
see Popkin, Barney P., (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p32-35

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see Brown, Edwin T., GT Jan. 83, p15-39

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disc. (of Spotting Communication Static: Nonverbal Ways to Improve Oral Presentations, by Hugh M. Aberman, CE June 83, p62-65), CE Nov. 83, p38

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Breusers, Herman N.C. disc. (of New Design Equations for Scour Around Bridge Piers, by Christopher James Baker, HY April 81, p507-511), HY March 82, p458-460

Briand, Jean-Louis

In Situ Tests and their Application in Offshore Design,

(Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with

Barry Meyer, p244-266
Obtaining Moduli from Cyclic Pressuremeter Tests. with Robert L. Lytton and Jung-Tsann Hung, GT May 83, p657-665

Brice, James C

Factors in Stability of Relocated Channels, HY Oct. 83. p1298-1313

Briggs, Oliver H., Jr. see Glos, George H., III, GT Apr. 83, p525-535

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Ground-Water Management in Arizona, WR July 83. p195-202

Brind, R. J.

see Steinberg, R. D., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p411-414

Brisbane, T. E.

see Karaki, S., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p444

Bristol, Charles R.

Model Documentation Designed for Users, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Raymond L. Humphries and James L. Higgins, p306-311

Brittain, Frank H.

see Mark, Kenneth M. S., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p585-588

Britto, Arul M.

Stability of Axisymmetric Excavations in Clay, with Osamu Kusakabe, GT May 83, p666-681

Britvec, S. J. Post-Buckling Equilibrium of Hyperstatic Lattices, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with M. D. Davister, p1075-1078

Bro, Per Bjarne disc. (of Vadose Zone Permeability Tests: Unsteady Flow, by Daniel B. Stephens and Shlomo P. Neuman, HY May 82, p660-677), HY Apr. 83, p651-652

Brocard, Dominique N.

Calculation of Intake Approach Flow Circulation with Two-Dimensional Finite Elements Model, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983). p380-385

Brockway, Charles E. see Allen, Richard G., WR Apr. 83, p134-136

see Allen, Richard G., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p79-89

see Allen, Richard G., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p160-174

Broderick, Laurie

Riprap Stability a Progress Report, (Coastal Structures '83, J. R. Weggel, ed., 1983), p320-330

Brodhead, Charles W., Jr. see Dapogny, Robert E., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p253-266

Brodsky, Harvey A. see Stroka, John G., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p724-730

Broenkow, W. W. see Loehr, L. C., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1923-1934

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Brower, David J.

see Carol, Daniel S., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2073-2085

Brown, Amalie Jo

see Orme, Antony R., (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983), p2328-2342

Brown, Bevan W.
Fifty Years of Operation of the TVA Reservoir,
(Accomplishments and Impacts of Reservoirs, Gordon
Green, et al, eds., 1983), with Robert A. Shelton, p138-151

Brown, Bobby J.
Mt. St. Helens Impact on Cowlitz River Sedimentation, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with W. Anthony Thomas, p147-152

Brown, C. Carter

Expansion of Natchez-Adams County Port, (Proceedings of Ports 83, Kong Wong, ed., 1983), with C. Dale Buckner and Charles Costner, p379-388

Seabees in Service, (Coastal Structures '83, J. R Weggel, ed., 1983), p235-258

Brown, Colin B.

Fuzzy Sets and Structural Engineering, with James T. P. Yao, ST May 83, p1211-1225 see Kam, Tai-Yan, EM Dec. 83, p1334-1434

Brown, Daniel M.

Multiple Time History Seismic Evaluation, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), with Donald W. Whitmire and James E. Beavers, p222-225

Brown, Edwin T.

Ground Response Curves for Rock Tunnels, with John W. Bray, Branko Ladanyi and Evert Hoek, GT Jan. 83, p15-39

Brown, George W. see Tarrant, Robert F., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1302-1309

Brown, Gerald R. Visual Intrusion Impact of Residential Traffic, with Donald F, Park, TE Sept. 82, p468-483 err: TE Nov. 83, p879

Brown, James D. see Hefner, John M., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p372-379

disc. (of Land Treatment of Hazardous Waste, by Allen Morrison, CE June 83, p33-38), CE Oct. 83, p32

Brown, Linfield C

Evaluation of the Effects of Landfill Leachate on Brook Trout by Bioassay, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Timothy W. Drew and N. Bruce Hanes, p789-796

Brown, Nancy

see Perez, Armando I., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1090-1104

Brown, Phillip P. disc. (of Cellular Cofferdam for Trident Drydock: Performance, by Max D. Sorota, Edward B. Kinner and Mark X. Haley, GT Dec. 81, p1657-1676) with James B. Forrest, GT Apr. 83, p647-649

Brown, Russ T.

Hiwassee Pumped-Storage Temperature Study, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Ming C. Shiao, p386-391

Brown, Russell H.

Strength of Anchor Bolts in Grouted Concrete Masonry, with A. Rhett Whitlock, ST June 83, p1362-1374

disc. (of U.S. Bridges: The Bias Towards Mediocrity, by Rowland Richards, Jr., CE April 83, p62-66), CE Dec. 83, p26

Brownie, William R.

Flow Depth in Sand-Bed Channels, HY July 83,

p959-990

Browzin, Boris S. Stability Analysis of Flexible Anchored Bulkheads, GT Aug. 83, p1113-1116

Brubaker, Thomas A. see Simons, Daryl B., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p465-466

Bruce, Michael B.

Ditch Flow Program, CE June 83, p60-61

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Brumburgh, Scott see Tenner, Helene, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p559-564

Brumley, Blair H.

Turbulence Measurements Near the Free Surface in Stirred Grid Experiments, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Gerhard H. Jirka, p1254-1257

Bruschin, Jacques disc. (of Flow Resistance in Coarse Gravel Bed Rivers. by George A. Griffiths, HY July 81, p899-918), HY April 82, p618-619

Bruun, P.

disc. (of Pass Cavallo, Texas: Case Study of Tidal-Prism Capture, by George H. Ward, Jr., WW Nov. 82, p513-525), WW Nov. 83, p500-503

Design of Mound Breakwaters, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Sverre Kjelstrup, p122-139

see Kjelstrup, Sverre, (Coastal Structures '83, J. R. Weggel, ed., 1983), p140-156

Bryant, Anthony H. see Powell, Stephen J., ST Sept. 83, p2148-2158

Bryce, Peter P.

Modified Reel Methods for Subsea Arctic Pipelines, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Jeffrey M. Key, p486-499

Bryden, I. G.

Bending Moments on Long Partially Submerged Cylinders in Random Seas, (Coastal Structures '83, J. R. Weggel, ed., 1983), with C. A. Greated, p393-403

Buchanan, Robert W.

disc. (of Discharge Assessment in Compound Channel Flow, by Peter R. Wormleaton, John Allen and Panos Hadjipanos, HY Sept. 82, p975-994), HY Nov. 83, p1559-1560

Buckley, Edward H.

Uptake of Airborne PCBs by Terrestrial Plants Near the Tailwater of a Dam, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with T. James Tofflemire, p662-669

Buckner, C. Dale

see Brown, C. Carter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p379-388

Buehler, Bob disc. (of Carrying Capacity of Flood Plains, by Nani G. Bhowmik and Misganaw Demissie, HY March 82, p443-452), HY Apr. 83, p643-644

iehler, Martin G.

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rcharth, Hans F.

Stability of Armour Units in Oscillatory Flow, (Coastal Structures '83, J. R. Weggel, ed., 1983), with A. C. Thompson, p71-82

Burdette, Edwin G

Concrete Bearing Capacity around Large Inserts, with . Dale Jones and Kenneth E. Fricke, ST June 83,

Burdick, B. see Goldsmith, V., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p941-953

Burg, M. C. Tridimensional Numerical Model for Tidal and Wind Generated Flow, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), with A. Warluzel and Y. Coeffe, p635-651

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Marine Elevator Transfer and Ship Repair Facility: Newfoundland Dockyard, St. John's, Newfoundland, (Proceedings of Ports 83, Kong Wong, ed., 1983), with R. T. Parsons and A. King, p690-703

Burke, Roger W. Modeling of Turbulent Canopy Flow, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Keith D. Stolzenbach, p295-300

Burman, Robert D., ed. see Borrelli, John, ed., Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures

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see Alley, William M., HY Oct. 83, p1272-1284

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Mathematical Programming in Structural Design, with Subramanian Ramamurthy, ST July 83, p1669-1679

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see Cardinal, Joseph W., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p697-710

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Buslov, Valery Corrosion of Steel Sheet Piles in Port Structures, WW Aug. 83, p273-295

Butler, H. Lee

see Sheng, Y, Peter, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1127-1148 see Vemulakonda, Seetharama R., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1659-1676

Butman, Bradford

see Cacchione, David A., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p123

Butson, Gary J. see Costello, George A., EM April 82, p219-227

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Buyalski, Clark P.

Canal Radial Gate Discharge Algorithms and Their Use, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p538-545

Buyukozturk, Oral

Heat Conduction through Layered Refractory Lining with Tsi-Ming Tseng, EM Aug. 83, p1000-1015

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Byers, Thomas Risk Analysis of Resource Levelled Networks, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), with Paul Teicholz, p178-186

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Cacchione, David A.

Long-Term Observations of Sediment Transport on the Continental Shelf: East and West Coast of the United States, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Bradford Butman and David E. Drake, p123

Cady, Philip D.

Inflation and Highway Economic Analysis, TE Sept. 83, p631-639

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see Daubert, O., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p832-845

Measurements of Self-Aerated Flow on a Spillway, with Ian R. Wood, HY Nov. 81, p1425-1444 err: HY Jan. 83, p145-146

Calabretta, Victor V.

Economic and Technical Options for Obsolete Marine Terminals, (Proceedings of Ports 83, Kong Wong, ed., 1983), with Robert H. Wardwell, p30-41

Caldwell, Jack A.
The Geology and Soil Properties of a Project in S.E.
Alaska, (Geological Environment and Soil Properties,
Raymond N. Yong, ed., 1983), with Allan S. E. Moss, p57-81

Caldwell, Stan R., ed.

Design for Ice Forces, with Randy D. Crissman, 1983, 218pp.

Calhoun, Philip R.

Nonlinear Finite Element Analysis of Clamped Arches, with Donald A. DaDeppo, ST March 83, p599-612

Calkins, Darryl J.

Modeling of Ice Discharge in River Models, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p285-290

disc. (of Resistance of Beauharnois Canal in Winter, by Gee Tsang, HY Feb. 82, p167-186) with George D. Ashton, HY Apr. 83, p641-642

Calladine, C. R.

disc. (of Tensegric Shell Behavior, by Oren Vilnay and Siong S. Soh, ST Aug. 82, p1831-1845), ST Dec. 83, p2946-2947

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Calvert, James D., Jr. disc. (of Medium Head Hydro Power House Concrete Volumes, by James L. Gordon, EY Dec. 81, p237-254), EY Nov. 82, p188-190

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Camfield, Fred E.

Wind-Wave Growth with High Friction, WW Feb. 83, p115-117

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European Cooperation in Coastal Policy, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Harry Coccossis, p1790-1802

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Campbell, Thomas E.

see Fleming, John F., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p580-593

Campbell, Thomas J. see Spadoni, Richard H., (Coastal Structures '83, J. R. Weggel, ed., 1983), p894-901

Canale, Raymond P.
Optimal Cost Control Strategies for Attached Algae, with Martin T. Auer, Yuzuru Matsuoka, Thomas M. Heidtke and Steven J. Wright, EE Dec. 83, p1225-

Activated Carbon: Sorption of DOC from Wastewater, with Paul V. Roberts, EE Aug. 82, p766-783 clo: EE Aug. 83, p976-978

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Cantor, Irwin G. Structural Trends, CE June 83, p26 disc. (of Building Trends: The View from Houston, by Gene Dallaire, CE July 83, p33-38), CE Nov. 83, p32

Canzano, Pasquale S. Delaware Reclamation Project Features Codisposal and Energy Recovery, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with N. C. Vasuki, p152-157

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A New Approach for Siting Waste Facilities, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p15-18

Carchedi, David R. Marine Terminal Modifications Port of Albany, New York, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), with David L. Porter, p584-598

Cardinal, Joseph W. Stress Analysis of Buried Pipelines, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with O. Hal Burnside,

Cardle, Jame Cardle, James A. see Song, C. S., HY Nov. 83, p1487-1504

Cargill, Kenneth W. Centrifugal Modeling of Transient Water Flow, with Hon-Yim Ko, GT Apr. 83, p536-555

Carley, Robert L. Inactive Mining Impact on North Clear Creek, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Christopher M. Crandell and John T. Windell, p652-659

Carlock, Stanley L.
Superfund and the Corps of Engineers, (Emerging
Energy/Environmental Trends and the Engineer,
Ronald D. Neufeld, et al, eds., 1983), p40-45

Carlson, E. Dean The Role of the FHWA in Highway Safety, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p14-22

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Carney, John F., III Minisized Automobiles and Roadside Appurtenances, TE Nov. 83, p815-823

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Sloping Float Breakwater Model Study, (Coastal Structures '83, J. R. Weggel, ed., 1983), with D.

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see Thompson, R. L., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p539-544

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Salinity Intrusion into Multi-Port Sea Outfalls, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2376-2385

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On Frontier between Rheology and Mudflow Mechanics, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p113-118

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F. Chen, et al, eds., 1983), p1279-1282 Finite Analytic Numerical Solution of Two-Dimensional Suddenly Expanded Channel Flow, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Kuo-San Ho, p1138-1141

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Chen, W. F., ed.

Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, with A. D. M. Lewis, ed., 1983, 1326pp.

Chen, W. F.

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Water Waves Propagating on Beaches of Arbitrary Slope, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with H. H. Hwung, p811-822

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Environmental Engineering, Allen Medine, et al,

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Structural Steel Failure, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p156-173

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Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with George F. Dana, p782-785

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Mechanics and Their Impact on Civil Engineerin

Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al, eds., 1983), 2287-290
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Mechanics and Their Impact on Civil Engineering
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Churchill, E. Allen

Computer Modelling of Ice Jams, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

Churilia, Charles J.

see Kilareski, Walter P., TE Jan. 83, p33-45

Churn, C. C.

Chlorine Inactivation of a DNA-Containing Enteric Virus, (National Conference on Environmental Engi-neering, Allen Medine, et al, eds., 1983), with G. D. Boardman and R. C. Bates, p426-432

Cibor, Joseph M.

Geotechnical Considerations of Las Vegas Valley, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p351-373

Citipitioglu, Ergin

Building Block Technique for Structural Design Software, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p572-579

Claborn, B. J.

Secondary Recovery of Water, IR Dec. 83, p357-365

Clancy, Robert M.

Low-Cost Measurements of Shoreline Change, (Coastal

Structures '83, J. R Weggel, ed., 1983), with Fred E. Camfield and Christine Schneider, p717-726 err: WW Nov. 83, p505

Clark, Barry R. Don't Get Crude on Georges Bank, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p841-849

disc. (of Gumbel's Extreme Value I Distribution: A New Look, by Dennis P. Lettenmaier and Stephen J. Burges, HY April 82, p502-514), HY Apr. 83, p645-647

Clark, C. O.

disc. (of Responding to the Challenges of Engineering Practice, by Adolph J. Ackerman, El Apr. 80, p137-159), El Jan. 82, p97-99

Clark, C. S.

see Bertucci, J. J., EE Apr. 83, p351-368

Clark, Denton R., Jr.

see Pope, Joan, (Coastal Structures '83, J. R. Weggel, ed., 1983), p193-207

Clark, L. A.

see Elliott, G., ST Nov. 82, p2379-2393

Clark, Llewellyn E. Pittsfield, MA: Vicon's Waste to Energy Facility, (National Conference on Environmental Engineering Allen Medine, et al, eds., 1983), with E. B. Mull, p358-365

Clark, Mark M.

disc. (of Forces Acting on Floc and Strength of Floc, by Tomonori Matsuo and Hideaki Unno, EE June 81. p527-545), EE June 82, p592-594

Structural Design Aspects of a Coastal Building Code, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2285-2299

Clark, Robert M.

Estimation of Water Demands Using Deficit Analysis, with James A. Goodrich and James I. Gillean, WR Oct. 83, p271-286
Optimizing GAC Systems, EE Feb. 83, p139-156

err: EE Aug. 83, p989

Predicting Future Water Demand, with James A.
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Pipe-Jacking: State-of-the-Art in UK and Europe, with J. C. Thomson, TE Jan. 83, p57-72

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Cleary, Michael P. Finite Element Analysis for Fracture Toughness Testing, with Brian L. Miller, EM June 83, p741-755

Cleasby, John L.

Is Velocity Gradient a Valid Turbulent Flocculation Parameter?, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Simon W. Freese, p811-852

see Saleh, Fathy M. A., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p125-135

see Replogle, J. A., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p530-537

Clemmens, Albert J.

Development of Solutions for Level-Basin Design, with Theodor Strelkoff and Allen R. Dedrick, IR Sept. 81, p265-279

disc: Terry Podmore, IR March 83, p187-189 clo: IR March 83, p189-190

Fluctuations in Irrigation Water Deliveries, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p546-553

Limits for Practical Level-Basin Design, with Allen R. Dedrick, IR June 82, p127-141

err: IR June 83, p295

Clerici, John F.

Hydrogeologic Models for Siting of Waste Facilities, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with J. Edmund Baker, p90-97

Clickner, Stephen J. see Boentgen, Rudolf R., (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p581-584

Clifford, Dennis

Ion Exchange and Membrane Processes for Nitrate Removal from Water, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Chieh-Chien Lin, p14-23

Clifton, James R.

see Pommersheim, James M., ST June 83, p1431-1449

Cline, Phillip Evolution of a Small Fishing Harbor: Bodega Bay, California, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Norman Swenson, p516-517

Clique, P. M.

see Coeffe, Y., (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2342-2356

Clopper, Paul E.

see Montgomery, Robert J., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p290-297

Clough, G. Wayne Measured Soil Response to EPB Shield Tunneling, with Bryan P. Sweeney and Richard J. Finno, GT Feb. 83, p131-149 Seismic Response of San Francisco Waterfront Fills,

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disc. (of Mean of Autocorrelated Air Quality Measurements, by Cynthia S. Hirtzel, Jimmie E. Quon and Ross B. Corotis, EE June 82, p488-501), EE Apr. 83, p529-530

Clyde, Calvin G.

Spacing of Wells for Heat Pumps, with Govindachari V. Madabhushi, WR July 83, p203-212

Clyde, Eric S.

Aeration Scale Effects, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with J. Paul Tullis, p413-418

Clyma, Wayne

see Sritharan, Subramaniaiyer, IR March 83, p29-42

Suspended Sediment Discharge on a Non-Tidal Coast, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with M. G. Skafel, p1288-1304

Coccossis, Harry see Camhis, Marios, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1790-1802

Modelling of Sea-Bed Evolution under Waves Action, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with P. H. Pechon, p1149-1160 Thermal Impact Studies for French Coastal Nuclear Sites, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with P. M. Clique and B. Manoha,

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p2342-2398 see Burg, M. C., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p635-651 see Lencioni, P., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p823-831

see Oswalt, Don, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p226-230

Coetzee, L. W.

see Rossouw, J., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p87-107

Coffman, Glenn N.

The Liner Design Process for Landfills and Surface Impoundments, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983),

Cogo, Neroli P. see Gray, Donald D., IR June 82, p107-114

Cohn, Louis F.

Interactive Graphics Use in Traffic Noise Modeling, with William Bowlby and Leonard W. Casson, TE March 83, p179-195 see Bowlby, William, CO June 83, p163-180

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Two-Dimensional Model of Mud Transport, with Gordon V. Miles, HY Jan. 83, p1-12

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see Sobey, Rodney J., WW Aug. 82, p272-290

Coleman, H. W.

Aeration for Cavitation Protection of Uribante Spillway, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with A. R. Simpson and L. M. de Garcia, p438-443

Coleman, Neil L.

Two-Dimensional Channel Flows over Rough Surfaces, with Carlos V. Alonso, HY Feb. 83, p175-188

see Loehr, L. C., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1923-1934

Collier, Courtland A.

Optimum Floor Elevation in Storm Tide Flood Zones, with James R. Williams, Jr., WW Feb. 83, p41-53

Collins, Michael A.

Collins, Michael A.

disc. (of Minimum Energy and Energy Dissipation Rate, by Charles C. S. Song and Chin Ted Yang, HY May 82, p690-706), HY May 83, p795-798

disc. (of Revised Rainfall Frequency Analysis for Houston, by Tracey C. Bouvette, Jeff L. Lambert and Philip B. Bedient, HY April 82, p515-528), HY June

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Colon, William D. disc. (of Pre-Bid Discussions with Contractors, CE Jan. 83, p26), CE Feb. 83, p22

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Colony, David C.

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see Wolfe, R. Kenneth, TE Jan. 83, p137-147

Colvocoresses, Alden P. disc. (of Research Needs in Marine Surveying, by Harold D. Palmer, SU April 82, p10-17), SU March 83, p68

Committee on Cartographic Surveying of the Surveying and Mapping Division of the American Society of Civil Engineers, (Robert L. Brown, chum.) Map Uses, Scales and Accuracies for Engineering and

Associated Purposes, 1983, 168pp.

Committee on Coordination within ASCE of the Technical Council on Computer Practices of the American Society of Civil Engineers, chmn.)

Introductory Manual on Computer Services (M & R

No. 61), 1983, 78pp.

Committee on Definitions and Standards of the Geo-technical Division, (Marshall L. Silver, chum.) SI Units for Geotechnical Engineering, GT Dec. 83, p1534-1538

Committee on Employment Conditions of the Profes-sional Practice Division of the American Society of Civil Engineers, chmn.)

ASCE Salary Survey 1981, 1982, 76pp.

Committee on Loads and Forces on Bridges of the Committee on Bridges of the Structural Division. Recommended Design Loads for Bridges, ST July 81,

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disc: Richard Carl Gerke, ST Feb. 82, p509-510 disc: A. R. Flint and J. G. M. Wood, ST July 82, p1684-1685 clo: ST Feb. 83, p589-590

Committee on Reliability of Offshore Structures of the Committee on Structural Safety and Reliability of the

Structural Division, chann.)

Application of Reliability Methods in Design and Analysis of Offshore Platforms, ST Oct. 83, p2265-

Committee on Seismic Analysis of the ASCE Structural Division Committee on Nuclear Structures and Materials, chmn.)

Seismic Response of Buried Pipes and Structural Components, 1983, 56pp.

Committee on Shallow Foundations of the Geotechnical Engineering Division of ASCE, chmn.)

Shallow Foundation on Frozen Soils: A Bibliography, GT Feb. 82, p285-291 disc: John S. Horvath, GT Feb. 83, p278-279 clo: GT Feb. 83, p279

Committee on Weather Modification of the Irrigation and Drainage Division, chmn.) Guidelines for Cloud Seeding to Augment Precipitation,

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Condra, Janet see Smith, John W., EE Oct. 83, p1168-1180

Condra, Janet S. Recovery of Waste Treatment Chemicals from Fly Ash, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with John W. Smith, p403-410

Connolly, John P.

Adsorption of Hydrophobic Pollutants in Estuaries, with Neal E. Armstrong and Richard W. Miksad, EE Feb. 83, p17-35

see Thomann, Robert V., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p166-173

Connolly, Marianne C.

Dorchester Rediscovered Urban Waterfront Access, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p122-137

Connor, J. J.

see Westerink, J. J., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p170-175

Connor, J. M.

see Guitjens, J. C., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p63-70

Connors, Charles F. Modernization of a Breakbulk Terminal to an Omni-Terminal at the Port of Long Beach, (Proceedings of Ports 83, Kong Wong, ed., 1983), p802-815

Conrad, Jon M.

Risk, Information and the Development of Marine Resources, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p179-193

Constantinou, Michalakis C.
Probabilistic Optimum Base Isolation of Structures,
with Iradj Tadjbakhsh, ST March 83, p676-689

Barrier Beach Features of California, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1008-1027

Converse, Hugh, ed. see Magoon, Orville T., ed., Coastal Zone '83

Cook, Barbara E. see Nataraja, Mysore S., GT Jan. 83, p108-113

Cook, Robert D. see Zhaohua, Feng, EM Dec. 83, p1390-1402

Cook, Walter

The Ancient Public Right of Access to Waterways, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p408-419

Cooke, Nigel
Strength and Serviceability of Steel Girder Webs, with
Warren R. Walpole, Peter J. Moss, D. Wayne
Langdon and Mervyn H. Harvey, ST March 83, p785-807

Cooley, Keith R.

Evaporation Reduction: Summary of Long-Term Tank Studies, IR March 83, p89-98

Cooney, Joseph J. Tin and Microbes in the Chesapeake Bay, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Lawrence E. Hallas, p864-872

Cooper, C. K. see Crowley, J. B., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p384-403

Cooper, Jeffrey M.
Design Techniques to Mitigate Environmental Impact
of Sand and Gravel Excavations in Alluvial Channels of the Western United States, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with John R. Stratford, G. Thomas Davis and Robert H. Born, p454

Cooper, R. H. see Yaremko, E. K., (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p49-63

Copley, Ross R.

Accomplishments and Impacts of Arkansas River Basin, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p76-86

Corapcioglu, M. Yavuz A Model for the Bacterial Contamination of Groundwater, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with A. Haridas, p60-65

Corbin, Michael H.

see Peterson, Roy C., (National Conference on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), p766-774

Cordes, H.

see Daemrick, K. -F., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p297-311

Cordes, Martin R. see Simiu, Emil, ST Jan. 83, p154-168

See Schultz, Donald M., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

Cornell, C. Allin

see Galambos, Theodore V., ST May 82, p959-977

Corotis, Rose B. see Kam, Tai-Yan, ST July 83, p1585-1601

Corotis, Ross B.

Probabilistic Load Duration Model for Live Loads, with Wen-Yang Tsay, ST Apr. 83, p859-874
see Chou, Karen C., EM Feb. 83, p14-29
see Chou, Karen C., (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al. eds., 1983), 988-386 see Hirtzel, Cynthia S., EE June 82, p488-501 see Hirtzel, Cynthia S., (disc), ST May 483, p1324-1326 see Kam, Tai-Yan, ST Nov. 83, p2685-2697

Corrsin, Stanley Some Physical and Mathematical Checks on Turbulence Data and Models, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1174-1176

Cortes-Comerer, Nhora

Word Processing: Office Personnel's Friend or Foe?, CE July 83, 756-59 err: CE Aug. 83, p22 Word Processing, Tips on How to Choose a System, CE Feb. 83, p50-55

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Post-Buckling Behavior of Guyed Towers, with James
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Butson, EM April 82, p219-227 disc: Roger E. Hobbs and Mohammed Raoof, EM

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Costner, Charles

see Brown, C. Carter, (Proceedings of Ports 83, Kong Wong, ed., 1983), p379-388

Cothern, C. Richard Uranium in Water (ltr.), with William L. Lappenbusch, CE Jan. 83, p21

Cottrell, Thomas E. see Tatum, Clyde B., CO June 83, p224-232

Coughlin, H. Joseph, Jr. Insurance As a Risk Management Tool, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2650-2654

Coull, Alexander

Design of Floor Slabs Coupling Shear Walls, with Wong Yang Chee, ST Jan. 83, p109-125 Simplified Analysis of Bundled-Type Structures, with Bishwanath Bose and Abdulla K. Ahmed, ST May 82, p1140-1153

disc: Peter C. Chang, ST Apr. 83, p1080-1083 clo: ST Apr. 83, p1083-1084

Coulter, Carleton, III

Risk Planning and Cost Avoidance by Financial Statement Analysis - The First Step, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), with Victor F. Spruill, p6-20

Counselman, Charles C., III Centimeter-Level Relative Positioning with GPS, with Richard I. Abbot, Sergai A. Gourevitch, Robert W. King and Albert R. Paradis, SU Aug. 83, p81-89

Cousens, Michael

see Shabica, Stephen V., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2186-2200

Cowen, Mike S.

see Freeny, Gordon B., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p100-124

Cowie, Gordon F. World's Tallest Building? (ltr.), CE Aug. 83, p22

Cox, Jack C

Hydraulic Model Testing of an Arctic Seawater Intake Structure, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Jerry L. Machemehl, p532-550

see Zwamborn, J. A., (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2700-2722

Cox, Rodney E.

Cost, Notates E. Control and the Owner, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p202-206

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Coyle, Harry M.

Design of Rigid Shafts in Clay for Lateral Load, with Mark W. Bierschwale, GT Sept. 83, p1147-1164

Cozzarelli, Francis A

see Salazar, Ricardo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1013-1015

Craig R. A. see Bell, N. E., (National Conference on Environmental Medine et al., eds., 1983),

Cramer, Steven
Strength Model for Wood Structural Members, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with James R. Goodman, p737-749

Crandall, Keith C.

Owner Control Obligations on Mega-Projects, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p216-223
see Ibbs, C. William, Jr., CO June 82, p187-200
see Woolery, John C., CO Sept. 83, p342-354

Crandell, Christopher M. see Carley, Robert L., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p652-659

Cranston, William B.
disc. (of Behavior and Design of Reinforced and disc. (of Behavior and Design of Reinforced and Composite Concrete Structures, by Soliman I. Al-Noury and Wai F. Chen, ST June 82, p1266-1284), ST May 83, p1330-1332 disc. (of Finite Segment Method for Biaxially Loaded RC Columns, by Soliman I. Al-Noury and Wai F. Chen, ST April 82, p780-799), ST May 83, p1318-

1320

Craver, Lionel

see Tarquin, Anthony, El July 83, p208-213

Crawford, James P. New England Division's General-Permit Methodology, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Alan D. Randall, p2054-2072

Crawford, John E. A Failure Methodology Based on Shear Deformation, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with T. J. Holland, P. J. Mendoza and R. N. Murtha, p985-988

Creegan, Patrick J.
Pipe Restraints: Design Fallacies, TE Nov. 83, p840-852

Cregger, David M.

Geotechnical Characterization of Ohio Valley Soils, (Geological Environment and Soil Properties, Ray-mond N. Yong, ed., 1983), with Peter J. Majeski and Thomas Y. Chang, p387-404

Crepeau, Louis see Murat, Jean-Robert, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p454-466

Crevensten, Dan Anchorage Wetlands Management Plan, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Bruce G. Phelps, Wayne Pichon and Tony Burns, p380-391

Crews, James E. Regional versus Local Water Supply Planning, WR Apr. 83, p179-185

Cribbins, Paul D. Export Coal Facilities: Potential Transportation and

Export Coal Facinities: Proteinal Transportation and Port Handling Techniques, (Proceedings of Ports 83, Kong Wong, ed., 1983), p314-328
Transportation Strategies for Export Coal Terminals in the Coastal Zone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1015-1031

Crick, Kelly
Ice and Snow Utilization in Cold Regions Construction, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), with John D. McClellan, p24-31

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Criswell, Marvin E.

see Goodman, James R., ST March 83, p690-704

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Crittenden, John C. see Hand, David W., EE Feb. 83, p82-101

Croley, Thomas E., II

Sediment Dynamics in Unsteady Nonprismatic Rills, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p127-132

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see Dumitrescu, Julian A., ST Oct. 83, p2248-2264 Cromartie, Kenneth D.

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disc. (of Antecedent Moisture Condition Probabilities, by Donald D. Gray, Peter G. Katz, Sharon M. deMonsabert and Neroli P. Cogo, IR June 82, p107-114), IR June 83, p296-298

Crooks, Valerie E.

see Quigley, Robert M., (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p5-18

Cross, R. V.

see Silberman, Edward, (disc), HY Aug. 83, p1178-1180

Cross, Ralph H.

see Niedoroda, Alan William, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1353-1368

Crouzet-Pascal, Jacques
Crash Resistance of Curved Thin-Walled Beams,
(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Robert Winter and Robert Gentzlinger, p656-659

Crowhurst, Alan D.

Crownerst, Alam D.

Marine Pipeline and Ocean Outfall Protection with Flexible Matresses, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p.2448-2458

Marine Pipeline Protection with Flexible Mattress, (Proceedings of Coastal Engineering 82, Billy L. Edge,

ed., 1983), p2403-2417

Marine Pipeline Protection with Flexible Mattress, (Coastal Structures '83, J. R. Weggel, ed., 1983), p370-378

Crowley, J. B.

A Computer Model for the Refraction on Non-Linear Waves, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with C. A. Fleming and C. K. Cooper, p384-403

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Impact Damage in Reinforced Concrete Shell Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p981-984

Cucolo, Belmonte P. see Milton, Alan, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p516-523

Cuenca, Richard H.

Application of Penman Equation Wind Function, with Martin T. Nicholson, IR March 82, p13-23 disc: George H. Hargreaves, IR June 83, p277-278 disc: C. J. Stigter, IR June 83, p278-281 disc: A. F. Thoma, IR June 83, p281-283 clo: IR June 83, p283-287

Buckling of Beams with Concentrated Moments, with Nicholas Sr. Trahair, ST June 83, p1387-1401

Cullen, Peter W.

see Bird, Eric C. F., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1518-1534

Cullinane, M. John, Jr.

In Situ Chemical Treatment of Lagoon Effluents, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Richard A. Shafer, p81-88

Culpin-Carey, Walter disc. (of A New Panama Canal?, by George A. Makela, CE April 83, p58-61), CE Oct. 83, p28

Cummins, Michael D.

Trichloroethylene Removal by Packed Column Air Stripping: Field Verified Design Procedure, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with James J. Westrick, p442-449

Cundy, Terrance W. see Grah, Oliver J., (Advances in Irrigation and Drain-age, John Borrelli, ed., 1983), p44-54

Cunge, J. A. disc. (of Modeling Circulation in Depth-Averaged Flow, by Victor M. Ponce and Steven B. Yabusaki, HY Nov. 81, p1501-1518) with S. Schwartz and J. M.

Cunningham, P. E.

On Infrastructure (ltr.), CE Feb. 83, p22

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see Benson, Ronald E., Jr., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p456-463

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Automated Community Flood Warning Systems, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p608

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Curtis, Michael D. Oxidative and Non Oxidative Ammonia Modeling, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p493-499

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see L. Ing. Mauricio Porraz, J., (Coastal Structures '83, J. R. Weggel, ed., 1983), p601-609

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Dynamic Testing and Analysis of Garoupa PGP-1
Piles, (Geotechnical Practice in Offshore Engineering,
Stephen Wright, ed., New York: ASCE, 1983), with Sergio Matos, p581-595

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The "Break-Off Method" for Testing Concrete in Place,
(Recent Advances in Engineering Mechanics and Themes) Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p569-572

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Frazil Ice, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p218-223

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The Engineer as an Expert Witness, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p103-105

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Load Induced Cracks in Cement Paste, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Emmanuel K. Attiogbe, p1051-1054 see Clawson, William C., ST March 82, p623-641

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Das, Braja M.

Holding Capacity of Vertical Anchor Slabs in Granular Soil, (Coastal Structures '83, J. R. Weggel, ed., 1983), p379-392

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see Karr, Dale G., ST Dec. 83, p2802-2811

Dasgupta, Gautam Almansi's Theorems for Anisotropic Solids, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p427-430

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Waterwaves Calculation by Navier-Stokes Equations, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with A. Haugel and J. Cahouet, p832-845

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tent Federal Policy on Coastal Barriers, (Coastal Zone '83, Orville T. Magoon, et al. eds., 1983), p480-481

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Displacements and Strains Around Probes in Sand, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Alireza Boghrat, p181-202

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Wave-Induced Pressures on Buried Pipelines, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with William G. McDougal and Charles K. Sollitt, p129-143

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Legal Control of Disruption of Aquifers Due to Coal Mining, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p105-112

Davis, John B.

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Davister, M. D.
see Britvec, S. J., (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
1023, p.1075. Practice, W. F. Chen, et al, eds., 1983), p1075-1078

Dawdy, David R.

Mathematical Modeling of Scour in Streams, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p64-69

Dawson, Kerry J.
Assessing and Managing Coral Reef Visual Resources, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1507-1517

Dawson, Leonard C.

Specifying Offshore Pipe Installation: A Case Study, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Bruce A. Bennett, p620-638

De Alba, Pedro A.

Group Effect on Piles in a Liquefying Sand Deposit, (Geotechnical Practice in Offshore Engineering,

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le Ruiter, J.

Marine Geotechnical Investigations, A Mature Technology, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with A. F. Richards, p1-24

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Geldof, HY July 83, p991-1011

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Analysis of Censored Fatigue Data, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

Dean, R. G.

Longshore Transport Determined by an Efficient Trap, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with E. P. Berek, C. G. Gable and

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Dean, Robert G.

see Perlin, Marc, (Coastal Structures '83, J. R Weggel, ed., 1983), p988-999

Dean, Warren
Cost Control During the Design Phase, (Current
Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p68-84

Deb, Arun K.

State Valuality Modeling of Shallow Surface Active Streams—A Case Study, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Jerry Klafter-Snyder, William G. Richards and Roy F. Weston, p486-492

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Dedrick, Kent G. Use of Early Hydrographic Surveys in Studies of California Estuaries, (*Coastal Zone '83*, Orville T. Magoon, et al, eds., 1983), p2294-2316

DeFazio, F. G.

Design of Aeration Devices on Hydraulic Structures, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with C. Y. Wei, p426-431

Degnan, John J. Centimeter Precision Airborne Laser Ranging System with Werner D. Kahn and Thomas S. Englar, Jr., SU Aug. 83, p99-115

DeGroot, William, ed. Proceedings of the Conference on Stormwater Detention Facilities, 1982, 431pp.

Dei Poli, Sandro

see Cedolin, Luigi, (disc), ST Oct. 83, p2479-2481

On Stress Singularities in Laminated Composites, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p491-494

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A Specification for Effective Cost and Project Control, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p85-94

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see Neves, Kenneth W., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p28-36

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Sediment Transport in the Kankakee River Basin, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Nani G. Bhowmik and J. Rodger Adams, p600

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den Blanken, John G. Microbial Activity in Activated Carbon Filters, EE April 82, p405-425 err: EE Apr. 83, p525-526

den Boer, K.

Coastal Structures '83, J. R. Weggel, ed., 1983), with C. J. Kenter and K. W. Pilarczyk, p307-319

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Dendrou, Sterglos A. Frequency of Northeaster Tides in Coastal New York, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Charles I. Moore and Vance A. Myers, p182-187

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Dennis, Norman D. Axial Capacity of Steel Pipe Piles in Clay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Roy E. Olson, p370-388

Axial Capacity of Steel Pipe Piles in Sand, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Roy E. Olson, p389-402

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see Janardhanam, R., (Recent Advances in Engineering

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Instrumentation and Performance Observations Offshore, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Kaare Hoeg, p604-625

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Post Surface Mining Drainage Basin Water Quality: Relationship to Mining and Reclamation Practice, Areal Disturbance, and Time, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Roger A. Minear and Raymond R. Rose, p625-634

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Morphological Reactions of Tidal Systems Due to Nearshore Construction Works, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with H. W. Partenscky and H. Schwarze, p2494-2503

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The Economic Impact of the Hugo Reservoir, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p31-44

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see Neves, Kenneth W., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p28-36

Donaldson, Gerald

Highway Safety and R-R-R, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p130-137

The Highway Engineer and Ethical Responsibility, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p200-204

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Simulating Advective Transport in Reservoirs, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with William L. Boyt, p21-26

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Dynamic Stability of Viscoelastic Cylindrical Shells, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with P. G. Glockner, p355-358

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Curved Girder Optimization-AASHTO Constraints, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p102-105

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The California-National Ocean Survey Marine Boundary Program: 1973-1982, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2478-2486

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Rock, with T. B. Belytschko and H. J. Yen, GT Dec.

83, p1551-1566

Earthquake Response of Caverns in Jointed Rock: Effects of Frequency and Jointing, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), with C. Ho and T. B. Belytschko, p142-156

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The Structures Laboratories at Imperial College, London, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Roger E. Hobbs, p601-604

Downey, Joe S.
Bedrock Aquifers of the Northern Great Plains, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p29-35

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An Aritifical Cobble Beach for Erosion Control. (Coastal Structures '83, J. R. Weggel, ed., 1983), with H. Saaltink, p846-859

Working Abroad? What About Taxes?, CE Jan. 83, p41-43

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Detection of Coherent Structures in Open Channel Flow, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with M. Bertchler, p1311-1314

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see Nottingham, Dennis, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), p2343-2360

see Nottingham, Dennis, (Design for Ice Forces, Dan R.

Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p54-68

Drake, David E.

see Cacchione, David A., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p123

Draper, Laurence Unusual Waves on European Coasts, February 1979, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with T. M. Bownass, p270-281

Dravinski, Marijan Scattering of SH Waves by Subsurface Topography, EM Feb. 82, pl-17 disc: Ralf Peek and Eduardo Kausel, EM June 83,

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Modeling of a Large-Scale Vehicle Structure, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with C. T. Chon, p326-336

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Wave Induced Velocities Close to a Rippled Bed, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p312-327

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Fixed-Film Anaerobic Digestion, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Ross E. Mckinney, p264-271

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Bridge Structural Innovation: Firsthand Report, EI July 82, p190-201 err: El Jan. 83, p69

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see Kausel, Eduardo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p154-157

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Torsional Behavior of Model Piles in Sand, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with M. W. O'Neill, p315-334

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Sediment Analyses for Urbanizing Watersheds, HY
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Stage-Frequency Analysis at a Major River Junction, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p492-498

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Ecker, R. M.

Storm Damage to San Francisco's Ocean Beach Resulting from the January 1983 Storms, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2630

Ecker, Richard M.

see Thompson, Fonda L., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p584

Eckert, James W.

Design of Toe Protection for Coastal Structures, (Coastal Structures '83, J. R. Weggel, ed., 1983), p331-341

Edgar, Robert T.

Effect of Outdoor Parameters on Indoor Air Quality, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p707-714

Results of Shoreline Erosion Demonstration Program, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with J. G. Housley, p1893-1900

Edge, Billy L., ed.
Proceedings of the Eighteenth Coastal Engineering
Conference, 1983, 2780pp.

Ediale, Peter W.

see Killoy, David H., (Proceedings of Ports 83, Kong Wong, ed., 1983), p84-96

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mental Engineering, Allen Medine, et al, eds., 1983), p643-651

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Wastewater Biofilms: Their Formation and Ultrastructural Characteristics, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with D. Maratea and Paul L. Bishop, p247-254

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Impacts of Reservoirs

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San Francisco's Southwest Ocean Outfall, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with D. D. Treadwell, p2418-2435

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Ejezie, Samuel Uche

Remote Sensing Characterization of Nigerian Soils, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with Thomas D. O'Rourke and Kingsley Harrop-Williams, p332-350

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Mechanics and Their Impact on Civil Engineering
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see Langhaar, H. L., (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
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Value Engineering (ltr.), CE Sept. 83, p28

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English, Wallace A. Willow Creek Inlet, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Larry D. Simpson, p159-164

Engman, Edwin T. Roughness Coefficients for Routing Surface Runoff, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p560-565

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an, Haydar

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see Stow, Douglas, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p565-574

A Laboratory Study of River and Ground Icings, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with G. Schohl and B. Klindera, p279-284

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Everts, Craig H. Shoreline Changes Downdrift of a Littoral Barrier, (Coastal Structures '83, J. R. Weggel, ed., 1983), p673-689

Institutional Problems in the Future Management of the California Coastal Resource Program, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p252-272

Faber, Phyllis

Marsh Restoration with Natural Revegetation: A Case Study in San Francisco Bay, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p729-734

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Ocean Outfall Design Treated Wastewater Discharges, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Charles M. Norkis, Francis Pandullo and Philip F. Healy, p563-572

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Numerical Model Study of Temperature Distributions in a Harbour, (Proceedings of Coastal Engineering 82,

Vol. I, Billy L. Edge, ed., 1983), p454-472

Falvey, Henry T. Effect of Gradients on Acoustic Velocity Meter, HY

Nov. 83, p1441-1453

Prevention of Cavitation on Chutes and Spillways, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p432-437

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Hydrologic Evaluation of Dam Safety, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983),

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Fang, Hsai-Yang Mechanics of Soil-Heat Interaction and Its Thermal Storage Capacity, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Ronald C. Chaney, p786-789

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Post-Storm Management and Planning in Avalon, New Jersey, (Coastal Zone '83, Orville T. Magoon, et al,

eds., 1983), with John W. Sinton, p662-681

Faruque, M. O.

Implementation of a General Plasticity Model, (Recent inhelitetation of a Certeiar Frasticity Model, (Neverli Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with C. S. Desai, p755-758

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Modelling of In Situ Tests in Jointed Rocks, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Md. M. Zaman, p88-101

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Discussion of the San Francisco Bay Area Seaport Plan, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p273-286

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Fehring, William K.
Planning for a Future Energy Terminal in Florida,
(Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Ray S. Hansen and Richard S. Nugent, p287-298

Feige, Walter A.

Field Evaluation of Air-Stripping Processes for Organic Contaminant Removal from Ground Water, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Dominick D. Ruggiero, p32-33

Feldman, Arlen D. Software Documentation and Support: HEC Experience, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p318-323

Felkner, I. Cecil

Rapid Detection of Genotoxic Chemicals in the Énvironment, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p204-

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Feng. William W. On Finite Deformation of Viscoelastic Disks, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p535-538

Fennema, Robert J. see Chaudhry, M. Hanif, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p587

Fenske, Carl W.

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Marr, Jose A. Ramos and T. William Lambe, GT Aug. 82, p1017-1039), GT Dec. 83, p1616-1617

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see Tennant, H. B., (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p639-649

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Earthquake Response of Dams with Wave Absorbing Reservoir Bottom, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Anil K. Chopra, p287-290

Fenves, Steven J.

Computers in Civil Engineering Practice, TC May 82, p44-52

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Computers in the Future of Structural Engineering. (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p1-8 see Rasdorf, William J., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p559-571

Fenwick, Richard C. Shear Deformation in Seismic Frame Structures, ST Apr. 83, p965-976

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Drainage, John Borrelli, ed., 1983), p113-123

Ferrick, M. G.

Unsteady River Flow beneath an Ice Cover, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with G. E. Lemieux, p254-260

Fetzer, Claude A.

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Findikakis, Angelos N. Approximate Numerical Model for Stratified Flow, with Robert L. Street, EM Aug. 83, p950-969

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see Brucker, Francois, (Proceedings of Ports 83, Kong Wong, ed., 1983), p152-162

Finkelstein, Kenneth

Cape Formation as a Cause of Erosion on Adjacent Shorelines, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p620-640

Finn, Daniel P.

Conserving the Coastal Resources of East Africa, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1823-1839

Finn, Fred N.

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Firle, Tomas E.

Integrated Management of San Diego Bay: A Socio-Ecological Challenge, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1714-1733

Fischer, Hugo B.

disc. (of Long-Term Salinity Calculations in Delaware Estuary, by M. Llewellyn Thatcher and Donald R. F. Harleman, EE Feb. 81, p11-27), EE Aug. 81, p874-876

Fisher, H. D.

Automated Telemetric Irrigation Controller, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983 with A. S. Humpherys and D. A. Young, p250-258

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see Hausammann, Hans, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures,

W. J. Hall, et al, eds., 1983), p70-83 see Roberts, Richard, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineer Practice, W. F. Chen, et al, eds., 1983), p805-808

Fisher, Thomas A.

Long-Span Bridge Computer Modeling, with Ramesh B. K. Rao, ST June 83, p1402-1413

Fisk, Edward R.

The Use of Project Records for Litigation, (Liability in Construction Management, David M. Lee, ed., 1983), p68-72

FitzGerald, Duncan M.

Sediment Bypassing at Mixed Energy Tidal Inlets, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1094-1118

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Calibration and Verification of the Potomac Eutrophication Model, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Stuart A. Freudberg, Kent Mountford, Michael Sullivan and Robert V. Thomann, p196-203

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Fluzat, Abbas A.
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Flacksbart, Barry M.
Computer Graphics—Where Are We Going?, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p9-14

Flack, J. Ernest

Residential Water Conservation, WR March 81, p85-95 disc: Ronald K. Blatchley, WR June 82, p240-242 clo: WR Jan. 83, p115-116

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see Khasnabis, Snehamay, TE March 83, p209-231

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Fleming, C. A.

New Framework for Prediction of Longshore Currents, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with D. H. Swart, p1640-1658 see Crowley, J. B., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p384-403

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Integrated Sizing of Water Storage and Conveyance, with Roger K. Hanson and John W. Labadie, WR Jan. 83, p94-111

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Interactive Graphics for Design of Piping Systems, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Theodor J. Batt, Thomas E. Campbell, Gary R. Ellis and Wayne R. Morrison, p580-593

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Regulation and Planning for Coastal Access, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p112-121

Fluss, Harold

see Stubbs, Norris, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p475-478

Focht, John A., Jr. see Kraft, Leland M., Jr., GT Nov. 81, p1521-1541

Foda, Mostafa A.

Breakout Theory for Offshore Structures Seated on Sea-Bed, (Geotechnical Practice in Offshore Engi-neering, Stephen Wright, ed., New York: ASCE,

1983), p288-299

Foerster, Richard E. see Stroka, John G., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p366-374

Fok, Yu-Si

Two-Dimensional Exponential Infiltration Equations, with Sang-Ok Chung and Clark C. K. Liu, IR Dec. 82, p231-241

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Coastal Protection Devices—A Review, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1857-1872

Foster, Tad

Water Quality Standards in Colorado, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p158-165

Fotinos, George C. Wharf Design and Construction - Port of Oakland, (Proceedings of Ports 83, Kong Wong, ed., 1983), with Gerald M. Serventi and Yasuyuki Toda, p141-151

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see Chang, P. C., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p365-378

Fowler, John W.

Motivated Personnel Produce Winning Constructors, Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p49-54

Foxen, Robert J. The Third Wave in Water Quality Management, CE April 83, p43-45

Francingues, Alan

Port of New Orleans Upgrading of Facilities at First Street Wharf, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), with Kong Wong, p352-363

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Important Aspects of Port/Railroad Interface, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p299-318

Frankel, Ernst G. 'CONBATCH' A Container Terminal Concept for the Future, (Proceedings of Ports 83, Kong Wong, ed., 1983), p234-240

Frankenstein, G.

Methods of Ice Control, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), with B. Hanamoto, p204-215

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see Marcuson, William F., III, (Seismic Design of
Embankments and Caverns, Terry R. Howard, ed., 1983), p65-78

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Structuring a Small Wasteflow Management Agency, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1982-1990

Franks, Robert disc. (of U.S. Bridges: The Bias Towards Mediocrity, by Rowland Richards, Jr., CE April 83, p62-66), CE Aug. 83, p24

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disc. (of Minimum Specific Energy in Compound Open Channel, by Merritt E. Blalock and Terry W. Sturm, HY June 81, p699-717), HY June 82, p800-802

Franzini, Joseph B.
see Shah, Haresh C., (Frontiers in Hydraulic neering, Hung Tao Shen, ed., 1983), p474 (Frontiers in Hydraulic Engi-

Fraser, Donald J.

Elastic Analysis of Laterally Loaded Frames, ST June 83, p1479-1489

Frazier, John G.

Selchies, Sirens, Sea Turtle Management and Other Marine Myths, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2842-2844

Fread, Danny L

Computational Extensions to Implicit Routing Models, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p343-348

Freeny, Gordon B.

Evaluating Energy Exchange Benefits Using the Existing Reservoir Systems In the United States, Accomplishments and Impacts of Reservoirs, Gordon Green, et al. eds., 1983), with Mike S. Cowen and Larry Y. Shiao, p100-124

Freese, Simon W.

see Cleasby, John L., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p811-852

Frei, Louis R.

see Ostenaa, Dean, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p1-9

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Freudberg, Stuart

see Librach, Austan S., EE June 82, p562-577

Freudberg, Stuart A.

see Fitzpatrick, James J., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p196-203

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see Johns, E. L., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p13-20

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Estimation of FAO Evapotranspiration Coefficients, with Robert W. Hill and Bruce C. Braaten, IR June 83, p265-270

Modeling of Return Flow in a Water Rights Transfer, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with Wynn R. Walker, p377-384

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Advection and Dispersion in an Experimental Ground-water Plume, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Douglas M. Mackay and John A. Cherry, p36-41 see Mackay, Douglas M., (National Conference of

Environmental Engineering, Allen Medine, et al, eds., 1983), p24-31

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disc. (of Evaluation of Selected Initial Dilution Models, by Abu M. Z. Alam, Donald R. F. Harleman and Joseph M. Colonell, EE Feb. 82, p159-186), EE Oct. 83, p1215-1217

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Estimating Construction Costs in Developing Countries, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p95-104

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Fritz, Jack J.

The Potential for Small-Scale Hydro in Developing Countries, CE Dec. 83, p46-49

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Water Conserv I: No More Discharge to Surface Water, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with John J. Kincaid, Kermit L. Prime and Michael J. Hanlon, p58-65

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Artificial Breachings of Bot River Estuary, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2458-2473 Frostig, Y. see Cohn, M. Z., ST Oct. 83, p2292-2309

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Methodology for Calculating Wave Heights Associated with Storm Surges Utilized by the National Flood Insurance Program, (Coastal Zone '83, Oville T. Magoon, et al, eds., 1983), with Perry E. Rhodes, p1991-2004

Fryling, Charles Jr.
Atchafalayai Management: Opportunities and Problems, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2269-2278

Fu, Kuan-Chen

Shear Building Optimization with Dynamic Con-straints, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Jamal M. Abu-Eid, p764-768

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Minimax in Structural Design, ST May 83, p1107-1117

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Groundwater Effects of Surface Mining in North Dakota, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with T. E. Rosengreen, p36-43 Fujioka, Masanobu R.

Cooling Water Supply-Disposal in Coastal Aquifer, with Akshai K. Runchal, EY June 83, p88-102

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Slope Erosion Related to Soil Freezing and Thawing on Mt. Fuji, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with So Anma and Shigeyasu Okusa, p405-432

Fukumoto, Yuhshi Minimum Weight Plastic Design of Continuous Beams, with Mitsuru Ito, ST July 81, p1263-1277 disc: Abul K. Azad, ST June 82, p1448-1449 clo: ST Jan. 83, p282

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Underwater Welded Dock Repairs, (Proceedings of Ports 83, Kong Wong, ed., 1983), p678-689

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Fungaroli, A. Alexander see Keenan, John D., EE Dec. 83, p1371-1384

Funge, William J. see Maisel, Stanley L., (Proceedings of Ports 83, Kong Wong, ed., 1983), p42-50

Funicelli, Nicholas A.

Choke Canyon Reservoir: Estuarine Impacts and Management, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Norman G. Benson, p2866-

Funke, E. R.

Funke, E. R.

The Control of Wave Asymmetries in Random Waves, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with E. P. D. Mansard, p725-744 see Barthel, V., (Coastal Structures '83, J. R. Weggel, ed., 1983), p911-924 see Mansard, E. P. D., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p710-724

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see Dean, R. G., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p954-968

Gabriel, Stephen R.
Volunteer Based, Low-Cost Sand Dune Development,
(Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p886-896

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see Terao, T., (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2062-2078

Numerical Calculation of Seiche Motions in Harbours of Arbitrary Shape, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p172-191

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California's Coastal Protection Constituency: Conserving a Critically Valuable Resource, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p548-558

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On the Snap-Through Phenomenon of N-Imperfect Bars, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1122-1125

Galt, Jerry A.
see Rooney-Char, Ann Hayward, (Coastal Zone '83,
Orville T. Magoon, et al, eds., 1983), p1352-1373

Galvin, Cyril

Environment in Coastal Engineering: Definitions and Examples, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2264-2284
Predicting Transport on Beaches: The State of the Art

Relative to Rivers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p188-194
Sea Level Rise and Shoreline Recession, (Coastal Zone

"83, Orville T. Magoon, et al, eds., 1983), p2684-2705 Shoaling with Bypassing for Channels at Tidal Inlets, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1496-1513

Gamble, William L. Creep of Concrete in Variable Environments, ST Oct.

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see Udwadia, F. E., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p319-322

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Garcia, John

Energy-Related Use Conflicts for the Columbia River Estuary, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Gary Ahlborn, Lincoln Loehr, Klaus Richter, Frank Westerlund and Jeremy Pratt, p1763-1780

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see Nakashima, L. D., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p682-696

Beach/Dune Changes on Natural and Developed Coasts, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1178-1194

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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p915-918

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Garland, B. William

Coal-Transshipment Facilities: A Regulatory Guide, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1041-1051

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see Sorensen, Jens, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1427-1443

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The Question of Mitigation, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1105-1119

Gaus, M. P., ed.
see Hall, W. J., ed., Proceedings of the W. H. Munse
Symposium Behavior of Metal Structures

Gazetas, George New Method for Dynamic Impedance of Piles, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p182-185

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Assessing the Short-Term Reduction in Streamflow pH Associated with Acid Precipitation, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with H. B. Pionke, p455-465

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Hydrologic Delineation of Nonpoint Source Contributing Areas, EE Oct. 83, p1035-1048

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Space Factor in Conflict Resolution in Arcata Coastal Zone Land Use Planning, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with George H. Allen and Frank R. Klopp, p708-728

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Calibration Verification and Application of a Two-Dimensional Flow Model, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p363-368

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Field-Scale Dispersion in Aquifers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p35

Gemperline, Eugene J. Steady, Non-Uniform, Rapidly Varied Flow Profiles, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with W. R. Ivarson, p593

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Revising Reservoir Operation Enhances Instream Uses. (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p446-453

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Gerard, Robert

River and Lake Ice Processes Relevant to Ice Loads, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p121-138

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A Cumulative Damage Model for Lumber, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Carol L. Link, p940-943

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Getzen, Beverly B. SANTA ANA: Flood Control Planning in the Coastal

Zone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1734-1742

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Soil Mechanics Related to Permeability Anisotropy of Coastal Sand Deposits, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2413-2430

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Scouring Induced Vibrations on Sub-Sea Pipelines (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Louis M. Laushey, p108-128

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Cronomic Impacts of Sea Level Rise, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Murray Kenney and Charles E. Martin, p2754-2767

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Orville T. Magoon, et al, eds., 1983), p1352-1373

Giles, James E. see Wunderlich, Walter O., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p480-485

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Boundary Conditions in Limited Area Simulation of Tidal Rivers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p324-329

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Computer Based Testing of Dynamic Response, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Levon Minnetyan and Gordon B. Batson, p589-592

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Morphology and Dynamics of Crescentic Bar Systems, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with D. Bowman, K. Kiley, B. Burdick, Y. Mart and S. Sofer, p941-953

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Short-Term Hydrodynamics in a Stratified Reservoir, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with J. Steven Lane, p524-531

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Conflict Resolution: Use of the Government-Industry Task Force, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2092-2095

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disc. (of Engineering Properties of Tropical Residual
Soils, (Engineering and Construction in Tropical and
Residual Soils, Geotechnical Engineering Division,
1982), by James K. Mitchell and Nicholas Sitar, p30-57), GT Apr. 83, p655-656

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Reduction of Sediment Loss by No-Till Cultivation, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with J. Borrelli, K. J. Fornstrom and G. D. Jackson, p368-376

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Design of Pressure-Treared Wood Bulkheads, (Coastal Structures '83, J. R. Weggel, ed., 1983), p286-294

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Owner Management of Risk in Construction Contracts, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p207-215

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Continental Shelf Sediment Transport: A Coupled Model for Flow and Sediment Dynamics, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Scott M. Glenn, p124

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Mixing Lengths for Turbulent Flow over Rough
Surfaces, (Recent Advances in Engineering Mechanics

On the Parties W. E. and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1206-1207

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Bed Load Transport of Fine Sand by Laminar and Turbulent Flow, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with Ragaei N. M. Ayoub, p1589-1599

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Estimating Correlation between Strength Properties, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with James W. Evans, p936-939

Green, Gordon G., ed.

Accomplishments and Impacts of Reservoirs, with Earl E. Eiker, ed., 1983, 235pp.

Green, Gordon G.
Columbia Basin Reservoirs Accomplishments, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), with Douglas D. Speers and Thomas L. White, p56-75

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Study of Ship's Track and Motions at Port Taranaki, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2763-2772

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Shore-Parallel Flows in a Barred Nearshore, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with Douglas J. Sherman, p1677-1996

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A Market Pricing Approach to Fares, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p72-78

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A Privately Owned/Operated Reservoir/River System, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p166-179

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Wave Run-Up Caused by Natural Storm Surge Waves, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p785-803

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Guenthner, Richard P.

Transit Performance Evaluation Model, with Kumares C. Sinha, TE July 82, p343-361 err: TE July 83, p613

Guerrieri, Ursula

Offshore Oil Operations and Environmental Values, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1238-1260

Guido, Ronald

see Hochstein, Anatoly B., WW Aug. 83, p310-322

Guitjens, J. C.

Nonpoint Contributions from Subsurface Drains, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with P. -S. Tsui, p320-327
Total Water Management for Alfalfa, (Advances in

Irrigation and Drainage, John Borrelli, ed., 1983), with P. -S. Tsui and J. M. Connor, p63-70

see Sonnen, Michael B., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p275-281

Guitjens, Johannes C. Models of Alfalfa Yield and Evapotranspiration, IR

Sept. 82, p212-222 err: IR Sept. 83, p345

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Guo, Chwen-Yuar

The Role of Eddy Viscosity in a Plane Jet Impingement, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1270-1273

Vortex Flow with the Presence of a Barrier, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Hsien-Ping Pao, p1154-1157

Guorui, Gao

Microstructure of Loess Soil in China Relative to Geologic Environment, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p121-136

Gupta, A

Gravity Wastewater Collection Systems Optimization, with S. L. Mehndiratta and P. Khanna, EE Oct. 83, p1195-1209

Gupta, Ajaya K. Reinforced Concrete Shells—Analysis vs. Design, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen. et al, eds., 1983), with Habibollah Akbar, p702-705

Gupta, Vijaya K.

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A Study of Ozone-Induced Coagulation, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Michael Pidatella, p118-124

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Timber Bridges: State-of-the-Art, with Thomas G. Williamson, ST Sept. 83, p2175-2191

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Haapala, Richard V.

Yakima-Tieton Irrigation District Canal Repairs, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p141-146

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Microbial Dynamics in GAC Filtration of Potable Water, with Michael A. Meyer and Marc S. Paller, EE Aug. 83, p956-961

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anos. Panos

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Haefner, Lothar

Computational Aspects of Dynamic Stability of Elastoplastic Shells, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Kaspar J. William, p376-379

Hagen, Vernon K. Should Analytical Procedures Equal Available Data?, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p505-512

see Barends, Frans B. J., (Coastal Structures '83, J. R. Weggel, ed., 1983), p31-44

Hager, Willi H.

Hydraulics of Plane Free Overfall, HY Dec. 83, p1683-1697

Hahn, Dewayne E. Cost Control at the Project Level: Construction Management, (Improving Productivity, J. R. King Jr., ed., 1983), p1-3

see Veletsos, A. S., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p295-298

Hahn, H. Thomas

Acoustic Emission and Birefringence Behavior of Epoxies, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with K. Hollmann, p487-490

Hahn, Harlan

Barriers to Coastal Recreation for Disabled Persons, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1882-1901

Haines, Daniel W.

Forensic Engineering: What Role for ASCE?, CE July 83, p53-55

clo: CE Dec. 83, p20

Haith, Douglas A. Planning Model for Land Application of Sewage Sludge, EE Feb. 83, p66-81

Haldar, Achintya

A Practical Probabilistic Model, (Recent Advances in

Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Bilal M. Ayyub, p948-951 Concrete Structures: Penetration Depth Estimation,

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Hale, John S.

Coastal and Ocean Management (H-6), (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2387-2401

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Dynamic Analysis of Arch Dams Including Hydro-dynamic Effects, with Anil K. Chopra, EM Feb. 83,

Hall, K. R.

Wave Protection for an Offshore Runway Extension, Alaska, (Coastal Structures '83, J. R. Weggel, ed., 1983), with C. I. Rauw and W. F. Baird, p157-170

Hall, Kevin R. see Kamphuis, J. William, HY Jan. 83, p49-61

Hall, Radford S.

Managing Coastal Conflict: A Federal Permit Role?, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1136-1141

Hall, W. J., ed.

Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, with M. P. Gaus, ed., 1983, 218pp.

Hall, William J.

Fatigue Research at the University of Illinois, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), with Frederick V. Lawrence and James E. Stallmeyer, p3-23

see Morgan, James R., ST Apr. 83, p1010-1027

Halias, Lawrence E.

see Cooney, Joseph J., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p864-872

Hallberg, G. R.

see Lutenegger, A. J., (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p310-

Hallermeier, Robert J. Sand Transport Limits in Coastal Structure Designs, (Coastal Structures '83, J. R. Weggel, ed., 1983), p703-716

disc. (of Prevention of Shoaling at Port Orford, Oregon by C. E. Chatham, HY Nov. 81, p1303-1316), HY

Jan. 83, p153-154

Hall, Thomas A. The Responsibility of the Civil Engineer to the Drinking Driver, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p113-120

Halpin, Daniel W. Critique - Conceptual Estimating, Risk Analysis and Cost Planning, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p1-5

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Hambacher, Degan G.

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Hamdani, I. H.

Optimum Moisture Content for Compacting Soils: One-Point Method, IR June 83, p232-237

Hamel, James V.
Geotechnical Perspective on River Bank Instability, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p212-217

Hamer, Frans C.
Wave Loads on Vertical Sliding Gates Eastern-Scheldt
Barrier, (Coastal Structures '83, J. R. Weggel, ed.,
1983), with René M. Korthol, Han Ligteringen and Henk van de Weyde, p551-561

Hamilton, Glenn D. Numerical Modeling Study of Lake Pontchartrain, with Cecil W. Soileau and Arthur Stroud, WW Feb. 82, p49-64 err: WW Feb. 83, p144

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Han, Tao-Yang

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Hand, David W.

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see Brown, Linfield C., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p789-796

Haniu, H. LDV Measurements in Two-Dimensional Bent-Over Jets, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with B. R. Ramaprian, p1299-1302

see Fritz, Walter R., (National Conference on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), p58-65

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Baton Rouge and New Orleans Deep Water Draft to Gulf of Mexico, (Coastal Zone '83, Orville T.

Magoon, et al, eds., 1983), with E. P. Russo, p1032-1040

Hansen, Bent

see Steenfelt, Jorgen S., (disc), GT Feb. 83, p271-273

Hansen, J. Climate Trends Due to Increasing Greenhouse Gases, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with A. Lacis and D. Rind, p2796-2810

Hansen, Lawrence A

disc. (of Ground Movements Caused by Braced Excavations, by Thomas D. O'Rourke, GT Sept. 81, p1159-1178), GT March 83, p485-487

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Hansen, Ray S

Some Western U. S. Coal Export Issues, (Proceedings of Ports 83, Kong Wong, ed., 1983), 9239-342 see Fehring, William K., (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p287-298

Hansler, Gerald M. Reservoir Management in the Delaware River Basin, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), with Robert L. Goodell,

Hansmire, William H.

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Analytical Determination of Form Friction Factor, with Khalid Mahmood, HY Apr. 83, p590-610

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Plane Strain Constitutive Equations for Soils, GT March 83, p388-407

Harding, Lee Use of Fjords for Disposal of Mine Tailing, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p32-51

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Haridas, A.

see Corapcioglu, M. Yavuz, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p60-65

Haris, Ali A. K

Approximate Stiffness Method for Dynamic Analysis, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Shatha Naman, p233-241

Harleman, D. R. F.

see Atkinson, J., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p8-14

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ronmental Engineering, Allen Medine, et al, eds., 1983), p174-181

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Harley, Brendan M. see Woodruff, David A., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p751-757

Channel Shoaling Prediction: A Method and Application, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with R. G. Dean, p1199-1218

Harley, Richard B. see Wesselink, Bryan D., (Proceedings of Ports 83, Kong Wong, ed., 1983), p51-61

Statistical Properties of Hybrid Composites, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p499-502

Harlow, Eugene H.
Sediment Transport, (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p2603-2611

Haroun, Medhat A.

Analytical Evaluation of Axisymmetrical Dynamic Characteristics of Cylindrical Tanks, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Magdy A. Tayel, p283-286
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Valley Earthquake, TC Apr. 83, p23-40

Demand Management Using Disaggregated Projections, (National Conference on Environmental Engi neering, Allen Medine, et al, eds., 1983), p280-286

see Robilliard, Gordon A., (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), p1374-1390

Harr, M. E. see Gruen, H. Allen, (disc), GT Dec. 83, p1641-1643

Harrell, Thomas B., Jr.

disc. (of Minicomputers in Structural Optimum Design, by Bogdan O. Kuzmanovic and Nicholas Willems, CE May 82, p82-84), CE Jan. 83, p21

see Lee, H. P., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p404-415

Harrop-Williams, Kingsley

Soil Properties, Raymond N. Yong, ed., 1983), p332-350 see Ejezie, Samuel Uche, (Geological Environment and

Harrop-Williams, Kingsley O.
Theoretical Development of the Distribution of Soil Strength, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p944-947

Hart, Raymond D.

see Babbitt, Donald H., (Seismic Design of Embank-ments and Caverns, Terry R. Howard, ed., 1983), p96-112

Hart, Stephen S.

Organization, Objectives, and Present Status of Fusrap and Umtrap, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p310-

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Calibration of NPS Model Loading Factors, with Thomas F. Quasebarth and Elizabeth Southerland. EE Dec. 83, p1259-1272
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Hartz, Kenneth E.

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Harvey, H. Thomas see Williams, Philip B., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1444-1456

Harvey, Mervyn H. see Cooke, Nigel, ST March 83, p785-807

Harvey, Michael D. see Watson, Chester C., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p602

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Intensity of Corner and Stress Concentration Factor, with Jiro Iida, EM Feb. 83, p346-356

Haselhoff, Donald A.

Water for Las Vegas Metropolitan Area, EE June 83, p700-712

Hasfurther, Victor R., ed.

see Borrelli, John, ed., Proceedings of the Specialty Conference on Advances in Irrigation and Drainage: Surviving External Pressures

Hashimoto, Hiroshi

Field Investigation of Beach Profile Changes and the Analysis Using Empirical Eigenfunctions, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with Takaaki Uda, p1369-1384 see Uda, Takaaki, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1405-1418

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see McCormick, Richard F., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p600-606

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Harmonic Analysis of Coupled Fluid and Piping, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with David C. Wiggert, p189-192

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Identification for Soil-Structure Parameters, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with M. A. Ismail, p315-318

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Field Study on Onshore-Offshore Sediment Transport, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p923-940

Hatzitheodorou, George Christou Cost Comparison of Container Handling Techniques, WW Feb. 83, p54-62

Hauck, George F. W. Hyatt-Regency Walkway Collapse: Design Alterna-tives, ST May 83, p1226-1234 disc. (of Delenda Est Kilogram, by Richard C. Gerke, El Apr. 81, p81-83), El Jan. 82, p101-103

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Haugel, A. Applications of a Numerical Shallow Water Waves Model, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with P. H. Pechon, p846-861 see Daubert, O., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p832-845

Hauguel, A.
A Finite Element Method for the Shallow Water Equations, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with G. Labadie and B. Latteux, p617-634
see Benque, J. P., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p582-597

Hausammann, Hans

Effect of Peening on Fatigue Life of Welded Details, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), with John W. Fisher and Ben T. Yen, p70-83

Hauser, Gary E.
Oxygen Modeling in Tailwaters of Hydro Projects, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Lisa M. Beard, p392-397

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Water Supply Lines in the Arctic and Subarctic, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p694-703

Havinga, Hendrik disc. (of Bed Load Discharge Coefficient, by Peter Engel and Y. Lam Lau, HY Nov. 81, p1445-1454), HY Jan. 83, p157-160

Havran, Kenneth J.

Regional and National Ocean Management Coordination, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Jeffrey D. Wiese, p145-162

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see McGurk, Bruce J., (Advances in Irrigation and

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Hawley, Mark E.

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see Komornik, A., (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p433-

Hayes, John M.

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Hayes, Miles O.

Hayes, Miles O., Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2768-2776 see Sexton, Walter J., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1479-1495

Haynes, F. D. see Sodhi, D. S., (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York:

Haynes, Harvey

see Chow, Philip, (Proceedings of Ports 83, Kong Wong, ed., 1983), p442-455

Hays, Fred W.

Quality Assurance for Cold Regions Construction, (Cold Regions Construction, Darryl F. Jordan, et al., eds., 1983), p72-94

Hays, Thomas E.

The Transportation Utility, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p64-71

Hayter, Earl J.

Consideration of Cohesive Sediment Transport in Estuarial Water Quality Management, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p606

Haythornthwaite, Robert M. Piecewise Linear Yield Criteria in Invariant Form, EM Aug. 83, p1016-1022

Head, William J.

Fly Ash Sulfur Concrete, with Min-Fu Liao, TE May 81, p345-363

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see LeMehaute, Bernard, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1800-1819

see Walker, James, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p523-542

Heagerty, Daniel D.

Mitigation: A Workable Tool for Coastal Development, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1052-1069

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Effects of Currents on Wave Drag and Inertia Loads, (Coastal Structures '83, J. R. Weggel, ed., 1983), p461-473

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Human Resource Management: Turnover or Retention, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p40-46

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Cold Regions Safety, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p95-117

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Coastal Zone Management on the West Coast: An Evaluation, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Ralph W. Johnson, p231-251

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Environmental and Engineering Considerations in Designing Coastal Water Intakes, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with

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Fracture and Fatigue Life Control Design of Bridges, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p801-804

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Shape Optimization of Structural Components, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Edward J. Haug and Kyung, K. Choi, p94-97

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Tsunami Hazards in Coastal Zones, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Frank Y.

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Survey of Operating Hazardous Waste Facilities in Europe and North America, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p210-217

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Hsu, C. T. Thomas L-Shaped Reinforced Concrete Column Section, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p557-560

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1983), p404-415

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Engineering, Stephen Wright, ed., New York: ASCE, 1983), p133-143

Hughto, Richard J.

Woodruff, David A., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p751-757

Higher Order Instabilities in Single Mode Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1091-1094

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see Botes, W. A. M., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p439-453

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The Water Bubble Concept: Its Suitability to Coastal Embayments, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p15-31

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Numerical Study of Two-Dimensional Impinging Jet Flows with Large Distance/Width Ratio, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Fu-Kang Tsou and Siamak Negahban, p1190-1193

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Fall Velocity of Particles in an Oscillating Flow, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p605

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Field Evaluations of Volatilization Rate Models for Land Disposal Facilities, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p680-689

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1983), with C. P. Tsai, p862-886

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Optimal Actuators Placements for Control of Flexible Civil Engineering Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p335-338

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Analytical Studies of Expansive Solids in Concrete, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with B. Bresler, p1028-1031

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Nelson, Jr., ed., 1983), p422-435 see Saouma, Victor E., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1005-1008

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Practice, W. F. Chen, et al, eds., 1983), p879-882

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see Wetzel, Edward D., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p577-584

Johnson, Victor R., Jr.
New Ways to Solve Underground Contamination
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Engineering, Allen Medine, et al, eds., 1983), p218222

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Snowmelt Runoff Modeling Using Landsat Imagery, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with D. M. Frick, B. A. Shafer and A. Rango, p484-493

s, Jonathan E.

Water Quality and Institutional Considerations of Stormwater Detention Ponds in Estuarine Environments, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1950-1981

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Design Features and Construction Techniques for Ocean Outfall Scarborough, Maine, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Robert D. Arsenault, p552-562

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see Nowell, Arthur R. M., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p121

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Wharf Decks - Design Load vs. Cost, (Proceedings of Ports 83, Kong Wong, ed., 1983), p570-583

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Reflection and Transmission of Waves Through Vertical Slit-Type Structures, (Coastal Structures '83, J. R. Weggel, ed., 1983), p939-952

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eds., 1983), with Jacqueline Michel, Miles O. Hayes

eus., 1963), with Jacqueine Witchei, whies G. nayes and John R. Jensen, p2768-2776, Soft Engineering Alternatives for Shore Protection, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p912-929

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A New Mixed-Hybrid Finite Element Model for Static and Dynamic Analysis of Thin Plates in Bending, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p238-242

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see Rajapakse, R. K. N. D., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p835-838

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Public Access on the Hudson: A New Jersey Perspective, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p138-144

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Site Specific Design of Laterally Loaded Piles, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with H. J. Kolk and W. R. van Hooydonk, p557-580

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Wave and Current Interaction in the Near Bed Region, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Richard R. Simons, p404-412

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Research for Management: GBR Marine Park, Australia, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2877-2889

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On a Curve Description Model for Soils, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with R. C. Batra, p1016-1019

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King, Harold C. Enhancing Highway Safety with Limited Resources, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p143-147

King, J. R., Jr., ed.

Improving Productivity, 1983, 101pp.

King, Larry G. see Kabir, Jobaid, (disc), IR Sept. 83, p345-347

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Reuse of Municipal Effluent in Mineral Flotation, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Alan M. W. Chu, Eric C. L. Chu and Gary L. Amy, p464-470 King, Richard W.

Management Control System San Diego Water Utilities, (Improving Productivity, J. R. King Jr., ed., 1983),

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Interest and Private Property Rights in New Jersey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1902-1922

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General Effective Stress Method for Piles in Clay, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Melvin I. Esrig and Benton S. Murphy, p457-498

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Dynamic Tests of Three Commercial Buildings, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p368-371

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Secondary Pressures of Waves Breaking on Seawall, WW Nov. 83, p487-490

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see Baracos, Andrew, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p39-56

Kjeldsen, Soren Peter 2- and 3-Dimensional Deterministic Freak Waves, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p677-694

Kjelstrup, Sverre

Construction of Mound Breakwaters, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Per Bruun, p140-156

see Bruun, Per, (Coastal Structures '83, J. R. Weggel, ed., 1983), p122-139

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Munse Symposium Behavior of Metal Structures,
W. J. Hall, et al, eds., 1983), p174-192

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Assessment of NO_x Control Measures for Diesel Engines on Offshore Exploratory Drilling Vessels and Rigs, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Jim Rouge, Pamela Beekley and James Norton, p1208-1227

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see Gearheart, Robert A., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p708-728

The Monitoring of Rubble Mound Breakwater Stability Using a Photographic Survey Method, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2164-2170

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Pier Protection for the Sunshine Skyway Bridge Replacement, (Proceedings of Ports 83, Kong Wong, ed., 1983), with Michael R. Flanagan, p555-569

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ed., 1983), p603 Kobori, Tameo

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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1242-1245

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Properties of the Mediterranean Coastal Rock-Soil Units Relative to Regional Control, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with G. Hayati, p433-446

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Inlake Water Quality Enhancement of a Water Supply Impoundment in Illinois, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Ralph L. Evans, p318-326

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Applications of a Shoreline Prediction Model, (Coastal Structures '83, J. R. Weggel, ed., 1983), p632-645

Field Experiments on Longshore Sand Transport in the Surf Zone, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with Masahiko Isobe, Hajime Igarashi, Tamio O. Sasaki and Kiyoshi Horikawa, p969-988

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Rehabilitation of Steel-Sheet Pile Bulkhead Walls, (Proceedings of Ports 83, Kong Wong, ed., 1983), p187-199

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Cohesive Sediment Properties and Transport Processes, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p66-78

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Nitrogen Removal in the Overland Flow Process —Design Considerations, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with R. G. Smith and E. D. Schroeder, p50-57

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ed., 1983), p207-211
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Hung Tao Shen, ed., 1983), p356-361

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Creep Behavior in Noncircular Tubes, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983),

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Geotechnical Centrifuges and Earthquake Simulator, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p621-625

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inear impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p323-326

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Damage Mechanisms in Tunnels Subjected to Explo-sive Loads, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p128-141

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see Hansen, J., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2796-2810

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Shallow Foundations on Frozen Soil: Creep Settlement, GT Nov. 83, p1434-1448 see Brown, Edwin T., GT Jan. 83, p15-39

Ladd, Charles C.

Stress History and Strength of Stiff Offshore Clays, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Amr S. Azzouz, p65-80 see Azzouz, Amr S., GT May 83, p730-734

see Ting, John M., GT Oct. 83, p1286-1302

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Analysis of Three-Dimensional Flows Around Kinks in Zoned and Leaky Porous Media, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with A. Adenekan and H. Johnson, p1170-1173

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Validity of Stokes-Flow Theory for a Falling Disk, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Yun-Ting Soo, p1158-1161

Lat, Shih-Sheng Paul Seismic Safety: 10-Story UBC Designed Steel Building, EM Apr. 83, p557-575

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see Glodowski, C. W., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1733-1744

Lakhanpal, Surinder K.

Couple Stress Model of Composite Material Moduli, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Robert M. Hackett, p1040-1042

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see Bhave, Pramod R., TE July 83, p534-547

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Conceptual Guidelines for Aquatic Ecosystem Restoration, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with

John Carter and Allen Medine, p618-624 see Medine, Allen J., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p867-877

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Lambert, Jo Lynn
TDCs: Planner's Dream or Builder's Nightmare?,
(Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p79-101

amberton, Bruce A.

Fabric Forming for Underwater Concrete, (Coastal Structures '83, J. R. Weggel, ed., 1983), p619-631

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Pollution Abatement for Barge Cleaning Operations, (Proceedings of Ports 83, Kong Wong, ed., 1983), p15-21

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see Parr, A. David, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p29-34

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Dynamics of Rigid Guns with Straight Tubes, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with A. P. Boresi, R. E. Miller and A. S. Elder,

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The Influence of Dam Failure Probabilities on Spillway Analysis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Frank E. Perkins, p459-464

Langton, Barbara J.

The Role of Crisis in Coastal Erosion Management in New South Wales Australia, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with David M. Chapman, p1640-1650

Lanier, E. Sorrell

Modernization and Upgrading of Port and Marine Facilities, (Proceedings of Ports 83, Kong Wong ed., 1983), p364-372

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Passive Treatment of Sulfide Stockpile Runoff, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Paul Eger, p643-651

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see Rudolph, Robert W., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p817-828

Larson, Dana Rigs to Reefs, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2845

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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p511-514

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see Hauguel, A., (Proceedings of Coastal Engineering 82, Vol. I. Billy L. Edge, ed., 1983), p617-634

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Denver's Potable Water Reuse Demonstration Project, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Stephen W. Work, p290-295

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Law, James P., Jr. Groundwater Studies in Texas and Oklahoma, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p267-274

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Particles in Thickening: Mathematical Model, with
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Augmentation of Urban Water by Antarctic Icebergs, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with D. S. Russell-Head, p2610-2618

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Ship Deployable Floating Breakwater, (Coastal Struc-tures '83, J. R. Weggel, ed., 1983), with W. G. McDougal and C. K. Sollitt, p404-416

Leadon, Christopher J.
Resource Management in the Suwannee River Estuary,
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Use of Inlet Sand for Beach Nourishment in Florida, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2378-2386

Leatherman, Stephen P.
Geomorphic Effects of Projected Sea Level Rise: A
Case Study of Galveston Bay, Texas, (Coastal Zone
'83, Orville T. Magoon, et al, eds., 1983), p2890-2901
Historical and Projected Shoreline Mapping, (Coastal
Zone '83, Orville T. Magoon, et al, eds., 1983), p2902-2910

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Lee, David M., ed.

Liability in Construction Management, 1983, 83pp. Lee, David M.

Time Impact Analysis—Forensic Scheduling, (Liability in Construction Management, David M. Lee, ed., 1983), p43-55 disc. (of Fencing a Bar Chart, by John W. Melin and Barry Whiteaker, CO Sept. 81, p497-507), CO June

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see Tseng, T. S., EM June 83, p795-810

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see Rast, Walter, EE Apr. 83, p502-517

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Non-Linear Analysis of Thin-Walled Beams, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with P. J. Harris and C. T. Thomas Hsu, p404-415

Lee, Han-Lin

Advances in Risk and Reliability Analysis for Hying, Hung Tao Shen, ed., 1983), with Larry W. Mays, p467-473 draulic Structures, (Frontiers in Hydraulic Engineer-

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Sediment Budget in Illinois Small Watersheds, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Paul Makowski and William Fitzpatrick, p599

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Lee, Yee Kwok

Design for Pipeline Wind Vibration in Arctic Areas, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p375-386

eendertse, Jan J.

Sensitivity of Parameters and Approximations in Models of Tidal Propagation and Circulation, (Pro-ceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Shiao-Kung Liu, p573-581 see Liu, Shiao-Kung, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p598-616

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Leman, Loren D. Kenai, Alaska, Outfall Crosses Tidal Flat, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Vince W. Rybel, p573-578

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Wave Forces on Piles of Variable Diameter, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with James Walker, John Headland and John Wang, p1800-1819

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Examples of Storm Surge Prediction Models, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with J. P. Benque and Y. Coeffe, p823-831

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Incipient Motion of Particles under Oscillatory Flow, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1555-1568

Lennon, Gerard P. Boundary Integral Solutions of Water Wave Problems, with Philip L-F. Liu and James A. Liggett, HY Aug. 82, p921-931

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Wave—Induced Forces on Buried Pipelines, (Coastal Structures '83, J. R Weggel, ed., 1983), p505-518

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Great Lakes Regulation by Lake Superior Plan 1977, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), with Malcolm J. Todd, p211-224

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Structural Optimization: A State-of-the-Art Report, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p90-93

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Large-Strain Creep of Metals, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Macief P. Bieniek, p1067-1070

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Modernization of Castle Island Marine Terminal, (Proceedings of Ports 83, Kong Wong, ed., 1983), with David B. Weiner, p649-661

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Optimization of Antenna Structure Design, (Proceedings
of the Eighth Conference on Electronic Computation,
James K. Nelson, Jr., ed., 1983), p114-129

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Numerical Analysis of Structural Tee X-Bracing, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Khosrow Nematollaahi, p490-500

Lewis, Brian J.

An Investigation of the Motivation of Project Managers and Department Heads in Consulting Engineering Firms, (Improving Productivity, J. R. King Jr., ed., 1983), p28-40

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Ribbed Plates on Non-Linear Foundations, (Recent Advances in Engineering Mechanics and Their Impacts on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Tseng Huang, p431-434

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Stress and Seepage Analysis of Earth Dams, with C. S. Desai, GT July 83, p946-960

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On Prediction of Characteristics for Vertical Plane Buoyant Jets in Stably Linear Stratified Environment, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Ching Jen Chen, p1279-1282

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An Investigation of the Stable Weight of Rubble for the Foundations of Vertical Walls under Wave Action, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Zi-Quang Zhong, p171-185
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Difference Methods of Flow in Branch Channel, with Ling-Jia Zhan and Hui-Li Wang, HY March 83, p424-446

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Prediction of Turbulent Boundary-Layer Flows with k-c
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Overflow Turbulent Boundary Layer and Its Characteristics, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1208-1211

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A Transmitting Boundary for Discrete Methods, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with H. L. Wong, p158-161

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Computer Color Animation of Hydrodynamic and Transport Modal Predictions, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Keith W. Bedford, p585

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Managing Potomac Water Quality: Evolving Approaches, with Cameron Wiegand, Stuart Freudberg, Michael Sullivan and Robert N. Magill, EE June 82, p562-577 err: EE June 83, p779

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Entrainment, Deposition, and Transport of Sediments in Lakes, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with See Whan Kang, p119 Lick, Wilbert J.

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Computation, James K. Nelson, Jr., ed., 1983), p480-489

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Boundary Methods-An Historical Perspective and Modern Developments, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with P. L. -F. Liu, p362

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see Mol, A., (Coastal Structures '83, J. R. Weggel, ed.,

1983), p57-70

see Toppler, J. F., (Coastal Structures '82, J. R. Weggel, ed., 1983), p3-16

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see Hamer, Frans C., (Coastal Structures '83, J. R. Weggel, ed., 1983), p551-561

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see Charbeneau, Randall J., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p48-53

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Design of Ships for Ice Environments, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p99-118

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Geometric Optimization of Arches for Stability, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1113-1114

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System Design of the San Francisco Ocean Outfall, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with George J. Murphy, Yair Eisenberg and Loring E. Hanson, p1935-1949

Lin, Jeen-Shang
Equivalent Stationary Motion for Liquefaction Study,
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Unsteady Transport of Suspended Load at Small Concentrations, with Juqing Huan and Xinquen Li, HY Jan. 83, p86-98

err: HY Dec. 83, p1777

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January C. Rotating Biological Contactor System Design, by Yeun C. Wu and Ed D. Smith, EE June 82, p578-588) with Ralph L. Evans and Donald H. Schnepper, EE Aug. 83, p973-975

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Multimode Bridge Response to Wind Excitations, with J. N. Yang, EM Apr. 83, p586-603

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see Madsen, P. Hauge, ST April 82, p753-770

Lingle, James W.

Water Quality and Waste Disposal Regulatory Trends Affecting Utilities, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p29-31

Link, Carol L.

see Gerhards, Charles C., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p940-943

Linky, Edward J., Esq. Offshore Master Plans Synergistic Opportunities or Business as Usual, (Coastal Zone 83, Orville T. Magoon, et al, eds., 1983), p1743-1752

Lipinski, Martin E., ed.
Proceedings of the Conference on the Role of the Civil Engineer in Highway Safety, 1983, 207pp.

Buried Waste Characterization Using Air Monitoring Instrumentation, (National Conference on Environ-mental Engineering, Allen Medine, et al, eds., 1983), p861-866

Liu, Barry J. S. Tests of Small Scale Liquid Storage Tanks, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Robert H. Kirchhoff and William A. Nash, p573-576

Liu, Clark C. K.

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see Liggett, J. A., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p362

Liu, Philip L-F

Water-Wave Motion Around a Breakwater on a Slowly Varying Topography, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Ting-Kuei Tsay, p974-987 see Lennon, Gerard P., HY Aug. 82, p921-931

Liu, Shino-Kung A Three-Dimensional Model of Bering and Chukchi Sea, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Jan J. Leendertse, p598-616

see Leendertse, Jan J., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p573-581

Liu, Wing Kam

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Nonlinear Analysis of Liquid-Filled Tank, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Dennis Lam, pl079-1082 see Belytschko, Ted, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1-17

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see Hinwood, Jon B., (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p261-269

Lloyd, R. Jam

Coping with the Great Lakes, Flooding and Erosion, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2679-2682

ocher, C. Preston

Overview: Introduction to Cold Region Construction, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p1-10

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Loehr, L. C.
The Abuse of Science in Sewage Planning, A Case
History, (Coastal Zone '83, Orville T. Magoon, et al,
eds., 1983), with E. E. Collias and W. W. Broenkow, p1923-1934

Loehr, Lincoln

see Garcia, John, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1763-1780

Logan, Daryl L.

Membrane embrane Theory for Layered Ellipsoidal Shells, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Moujalli Hourani, p774-777

ogani, Kulbhushan L.

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INT-Reduction Assays and Control of Sludge Bulking, with Ben Koopman and Gabriel Bitton, EE Aug. 83, p915-923

Lohnes, R. A. Geotechnical Properties of Residual Tropical Soils, (Geological Environment and Soil Properties, Ray-mond N. Yong, ed., 1983), with T. Demirel, p150-166

disc. (of Rock Engineering: La Grande Complex, Quebec, by D. Kent Murphy and Jerry Levay, GT Aug. 82, p1040-1055) with Th. Vladut, GT July 83, p1017-1019

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Noise Enhancement/Suppression from Acoustically Excited Jets, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with H. Kim and R. E. A. Arndt, p1274-1278

Long, Edward R.

A Multidisciplinary Approach to Assessing Pollution in Coastal Waters, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p163-178

Long, Elmo E.
NOAA/NOS Methods of Tidal Current Predictions, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1168-1177

Long, Richard P.
disc. (of Method to Predict Ultimate Compression in Clays, by S. Narasimha Rao and K. Kondandaramaswamy, GT Feb. 82, p310-314), GT May 83, p777 disc. (of Synthetic Fabrics as Soil Filter: A Review, by David J. Hoare, GT Oct. 82, p1230-1245), GT Sept. 83, p1209-1211

Long, Robert R.

Long, Robert R.
Growth of a Grid-Generated Turbulent Mixed Layer,
(Recent Advances in Engineering Mechanics and Their
Impact on Civil Engineering Practice, W. F. Chen, et
al, eds., 1983), p1177-1179
The Decay of Turbulence in a Stratified Fluid, (Recent

Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p1216-1219

Longaker, Jeffery J. see Olem, Harvey, EY June 83, p103-112

Reliability of Basements As Shelters, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with N. T. Thomopoulos and J. Mohammadi, p911-914

Lord, H. W. A Model for Yield of Bi-Phase Lamellar Eutectics, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with D. H. Lassila and R. Mayer, p511-514

Lotfi, V.

Water-Dam Interaction during Earthquakes, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. M. Roesset and J. L. Tassoulas, p291-294

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Luebke, Thomas A.

see Yang, Chih Ted, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p475-479

Luecker, A. R.

see Karaki, S., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p444

Lue-Hing, C. see Bertucci, J. J., EE Apr. 83, p351-368

See Sims, J. M., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p242-252

Lundin, Rodney P.
Rehabilitation of Cyclopean Concrete Wharf, (Proceedings of Ports 83, Kong Wong, ed., 1983), p816-827

Lundy, William P. see Snyder, Gary M., (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p25-33

Lunetta, Carmen

see Perez, Armando I., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1090-1104

Lung, Wu-Seng disc. (of Performance of Some Empirical Phosphorus Models, by Dintie S. Mahamah and Surinder K. Bhagat, EE Aug. 82, p722-729), EE Aug. 83, p985-986

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Lutenegger, A. J. Origin and Properties of Glacial Till and Diamictons, (Geological Environment and Soil Properties, Ray-mond N. Yong, ed., 1983), with T. J. Kemmis and G. R. Hallberg, p310-331

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Lutes, Loren D.

First-Passage Probability for Two-Mode Systems, with Shen-Ho Tzuang, EM Dec. 83, p1358-1374

Stochastic Response of Yielding Multistory Structures, with Tysh Shang Jan, EM Dec. 83, p1403-1418

Stochastic Response of Yielding Multi-Story Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et

al, eds., 1983), with Tysh Shang Jan, p879-882 disc. (of Impact Factors for Fatigue Design, by Charles G. Shilling, ST Sept. 82, p2034-2044), ST Aug. 83, p2029-2030

disc. (of Permeability and Consolidation of Normally Consolidated Soils, by A. Mahinda Samarasinghe, Yang H. Huang and Vincent P. Drnevich, GT June 82, p835-850), GG June 83, p872

Lykins, Ben W., Jr. Pilot Plant Study of Treatment Options for Producing Potable Water at Thornton, Colorado, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Mark A. Speed, p287-289

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Lynch, Daniel R.

Continuous Moving Boundary Simulation—Verifica-tion of Finite Element Technique, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p330

Lytton, Robert L. see Briaud, Jean-Louis, GT May 83, p657-665

Ma, Chen-Mean

see Niedoroda, Alan William, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1353-1368

Maattanen, Mauri

Design of Navigational Structures for Ice Forces, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p172-185 McAdam, Steven A.

Enforcement in California's Coastal Regulatory Agencies, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1666-1693

Macaitis, Bill

Managing Productivity during an Attrition Program, (Improving Productivity, J. R. King Jr., ed., 1983), p79-88

McAnally, William H.

Multi-Dimensional Modeling of Sediment Transport, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with W. Anthony Thomas and Ranjan Ariathurai, p91-95

disc. (of Modeling Hydraulic Phenomena: A Glossary of Terms, HY July 82, p845-852), HY June 83, p937-938

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McBean, Edward A. Leachate Collection Design for Containment Landfills, with Ronald Poland, Frank A. Rovers and Anthony J. Crutcher, EE Feb. 82, p204-209

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Burn, EE Dec. 83, p1452

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see Holbrook, Bruce E., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p566-571 MacCamy, R. C. see Bielak, J., (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering

Practice, W. F. Chen, et al, eds., 1983), p150-153 McCann, Martin W. see Shah, Haresh C., (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p474

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Practice, W. F. Chen, et al, eds., 1983), p810-813

McCarthy, M. J. Construction of a Breach Closure in a Barrier Island, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with E. J. Schmeltz and G. R. Lehan, p1219-1230

see Schmeltz, E. J., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1062-1077

McCarthy, Richard J.

Bluftop Setbacks—A Regulatory Impossibility?, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with L. Thomas Tobin, p1600-1604

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see Mackay, Douglas M., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p24-31

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see Crick, Kelly, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p24-31

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see Nakashima, L. D., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p682-696

McConnell, Linda K.

Removal of Microorganisms by Slow Rate Sand Filtration, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Ronald C. Sims, Darwin L. Sorensen, William B. Barnett and V. Dean Adams, p419-425

McCord, Catherine A.

Consistency: Current Issues, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1289-1301

McCormick, Michael E.

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Sunlight and Aeration Effects on Chlorine Residuals, (National Conference on Environmental Engineering Allen Medine, et al, eds., 1983), with Dean D. Hatfield, p600-606

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McCrea, Mauree

Evaluation of Washington State's Coastal Management Program, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2858

McCreary, Scott Innovative Estuarine Restoration and Management, (Castal Zone '83, Orville T. Magoon, et al, eds., 1983), with John Zentner, p2527-2551

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Estimating the Time of Concentration of Croan Watersheds, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Stanley L. Wong and Walter J. Rawls, p547-552 Estimating Unit Hydrograph Peak Rate Factors, with Timothy R. Bondelid, IR June 83, p238-250

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McCutcheon, Steve C. Evaluation of Stream Water-Quality Models, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p190-195 Vertical Mixing in Models of Stratified Flow, (Frontiers

in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p15-20

McDade, J. H.

see Replogle, J. A., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p530-537

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Project Systems via Satellite Communications, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p267-277

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McDougal, William G

see Davidson, Susan H., (Pipelines in Adverse Envi-ronments II, Mark Pickell, ed., 1983), p129-143

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McEnroe, Bruce M.

Synthetic Hyetographs for Storm Drainage Design, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p607

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Estimating Ground Motions for Small Nearby Earthquakes, (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p113-127

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Are basic Engineering Assumptions About the Driver Valid? (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), with Kevin G. Hooper, p45-53 see Chadda, Himmat S., TE Nov. 83, p785-799

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Scheduling: Effective Methods and Techniques, CO March 82, p75-84 disc: Srilal Perera, CO Dec. 83, p477-478

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Finite Element Analysis Computation with Parallel

VLSI, (Proceedings of the Eighth Conference on

Electronic Computation, James K. Nelson, Jr., ed., 1983), with M. Salama, p540-553

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McGregor, Robert C. Floating Tyre Breakwaters—A Case History, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with Colin H. G. Gilbert, p1992-2008

McGuire, William see Abel, John F., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr.,

on Electronic Computation, James R. Neison, J., ed., 1983), p594-607

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Transport of Organic Solutes, (National Conference on Environmental Engineering, Allen Medine, et al, eds., D. Hopkins, Perry L. McCarty, Martin Reinhard and Paul V. Roberts, p24-31

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Designing and Installing an Interactive Management System for the Southwest Fisheries Center, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Alexander N. Christakis and Marjorie P. Christakis,

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Science and the Designation Process under Federal Coastal Barrier Legislation, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with John C. Kraft, p697-707

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Tropical Storm, Loxate Associated with a Tropical Storm, Loxatachee River Estuary, Southeastern Florida, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Wayne Sonntag, p2250

McReynolds, Charles M.

Employee Review-The Key to Improving Productivity, (Improving Productivity, J. R. King Jr., ed., 1983), p41-49

McRoberts, Edward C. Shallow Foundations in Cold Regions: Design, GT Oct. p1338-1349
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A Model of Longshore Sediment Transport Processes in the Surf Zone, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p125

Madsen, P. Hauge Bayesian Approach to Prototype Testing, with Niels C. Lind, ST April 82, p753-770 err: ST May 83, p1323

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Numerical Studies in Homogenization of Periodic Composites, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p507-510

Maggi, Michael A. The San Mateo Coastside Regional Outfall, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p541-551

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Magoon, Orville T., ed. Coastal Zone '83, with Hugh Converse, ed., 1983, 2918pp

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Mahaffay, David R.

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Factors of Safety for the Design of Breakwaters, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with J. G. Berry, p2097-2106
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of Coastal Engineering 82, Billy L. Edge, ed., 1983), with P. C. Mornement and J. G. Berry, p2332-2341

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Random Equivalence in Engineering Mechanics, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p275-278

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Who Says Science Can't Influence Decision Making?, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Joy B. Zedler, p584-600

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Planning Projects: A Formula for Control, (Improving Productivity, J. R. King Jr., ed., 1983), p4-10

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see Thoem, Robert L., (Pipelines in Adverse Environ-ments II, Mark Pickell, ed., 1983), p279-290

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Michie, Jarvis D.

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see Riley, Jim, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p503-513

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Corps of Engineers Navigation Structure Maintenance, (Proceedings of Ports 83, Kong Wong, ed., 1983). p527-531

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Some Aspects of Adaptive Finite Element Modelling, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p809

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Selection of Computers for Education, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p223-232

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Biological Effects of Highway Fills, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with Larry W. Canter and Joakim G. Laguros, p374-386

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see Langhaar, H. L., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p230-233

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Simplified Estimating Methods for New Technologies, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), with Thomas C. Ponder, Jr., John E. Spessard and Cynthia M. Harvey, p30-44

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see Matheusik, Mick R. E., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1488-1506

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Screening for Organic Toxicants in Aquatic Environments, (National Conference on Environmental Engi-neering, Allen Medine, et al, eds., 1983), with Donald B. Porcella, p327-334

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Determination of Concrete Strengths Using Ultrasonic Waves, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Gajanan M. Sabnis, p561-564

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Water Quality Mitigation at a Pumped Storage Plant, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with E. Eric Adams, John H. Mason, Belmonte P. Cucolo and John W. Blake, p516-523

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Laboratory Study on the Influence of Detached Breakwater on Coastal Change, (Coastal Structures 83, J. R. Weggel, ed., 1983), with Takuzo Shimizu and Kiyoshi Horikawa, p740-752

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Application of Fracture Mechanics to Concrete, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p794-797

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Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al., eds., 1983), 589-592
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Engineering Practice, W. F. Chen, et al., eds.,
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see Oliveira, I. B. Mota, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1950-1969

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Engineering Properties of Tropical Residual Soils, (Engineering and Construction in Tropical and Residua Soils, Geotechnical Engineering Division, 1982), with Nicholas Sitar, p30-57 disc: Henry Grace, GT Apr. 83, p655-656

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Individual Wave Analysis of Irregular Wave Deformation in the Nearshore Zone, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p485-504

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Multipurpose Gate Operation, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2534-2550

Mock, R. G.

Alluvial Fan Hazards at Glenwood Springs, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with S. L. Pawlak, p221-233

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Measurement Techniques for Moored Ship Dynamics, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with S. G. Holroyd, p2641-2661

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An Improvement of Winkler Foundation, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p439-442

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Mohraz, Bijan 1973 NRC Design Spectrum, with Fawzi E.

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see Putcha, Chandrasekhar, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p932-935

West Breakwater-Sines Study of Armour Stability, (Coastal Structures '83, J. R. Weggel, ed., 1983), with H. Ligteringen, R. L. Groeneveld and C. R. A. M. Pita, p57-70

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Large Deflections of Nonlinear Elastic Beams under Uniformly Distributed Loads, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Gilbert Lewis, p455-458

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Montgomery, Raymond L. Dredged Material Sedimentation Basin Design, with Edward L. Thackston and Frank L. Parker, EE Apr. 83, p466-484

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Creep Closure of an Opening in a Deep Potash Mine, Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1024-1027

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Moore, Charles L.

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Magoon, et al, eds., 1983), p2664-2678

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Flood Plains Management and the Coastal Zone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Dorothy P. Moore, p.2664-2678
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Year Retrospective, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Dorothy P. Moore, p1627-1639

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A Stress-Strain Analysis of Rubber and Steel Composite Bearings, (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), with Leonard R Herrmann, p734-737

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Assessing Waterlogging Controls I: Hydrologic Model, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with A. R. Simpson and R. A. Young, p124-133

Correspondence between the SCS CN and Infiltration Parameters, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with J. P. Verdin, p308-319 see Young, R. A., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p134-140

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Analysis of the USGS Stream-Gaging Program, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with W. O. Thomas, p520-527

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Moussouros, Minos Comparisons of Buckling Load Predictions for a Ring Stiffened Cylinder, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p395-398

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Education Programming in the South Slough Estuarine Sanctuary, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1840-1845

Muraca, A.

Shore Protection at Venice: A Case Study, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed.,

1983), p1078-1093

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Synthesis of Transmitting Boundaries by Use of Green's Functions, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. Enrique Luco, p162-165

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Cost and Schedule Integration in Construction, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p119-129

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Hydrocarbon Facility Siting in Northern Canada, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1781-1789

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clo: HY June 83, p935-936

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Safety Performance Goals, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p33-44

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San Diego Bay Area Fisheries Management, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p496-515

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A System for Integrated Project Control, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p138-146

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Design of Bridges for Ice Forces, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p156-171

Nelson, Charles W.

The Evolution of Prefabrication in Marine Structures, (Proceedings of Ports 83, Kong Wong, ed., 1983), p471-479

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Nelson, James K., Jr., ed. Proceedings of the Eighth Conference on Electronic Computation, 1983, 784pp.

Nelson, John D.

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Transportation Brokerage in a Bi-State Area, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p22-31

Nemat-Nasser, S. On Micromechanics of Strength Degradation in Metals, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p642-643

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see Lewis, Albert D. M., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p490-500

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Neufeld, Ronald D., ed. Emerging Energy/Environmental Trends and the Engineer, with Richard W. Goodwin, ed., 1983, 53pp.

Neufeld, Ronald D.

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, Carl F.

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Coast Effectiveness: A Better Beach for Your Buck, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Stephen Furney-Howe, p930-948

Neves, Kenneth W. Vector Computing: Requirements and Constraints, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with B. Dembart, D. S. Dodson, J. G. Lewis and W. G., Poole, Jr., p28-36

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Green Harbor River (MASS.) CZM Feasibility Studies, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Michael L. Scheffler, p1310-1329

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Refraction of Gravity Waves Using Global Spline
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Three-Dimensional Marine Models for Impact Studies, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Francois C. Ronday, p745-764

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Offshore Artificial Structures and Their Influence on the Israel and Sinai Mediterranean Beaches, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1837-1856

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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1032-

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Non-Linear Wave Forces on Floating Breakwaters, (Proceedings of Coastal Engineering 82, Billy L. Edg ed., 1983), with M. De St. Q. Isaacson, p2009-2025

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disc. (of Construction Specifications: A One-Book Deal, by Joseph Goldbloom, CO Dec. 80, p601-603), CO Dec. 81, p759-760

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Design of Submerged and Floating Structures, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p186-203

Noble, Ronald M.
Tidal Erosional Effects on a Bulkhead System, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with Wolfgang H. Roth and Uday K. Patil, p2204-2215

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Ship Motions Related to Deep Draft Channel Design, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2662-2680

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The Value of Coastal Dunes as a Form of Shore Protection in California, USA, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Norbert P. Psuty, p873-885

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A Failure Theory for Window Glass Plates, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Joseph E. Minor, p1001-1004
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Zone '83, Orville T. Magoon, et al, eds., 1983), with Brent T. Drage, Jeffrey Gilman and Jeanne Adams,

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Consulting Engineering is Motivating People, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p68-84

Nowak, Andrzej S. Risk Analysis Procedure for Code Optimization, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p851-854

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Nowell, Arthur R. M.

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82, Vol. II, Billy L. Edge, ed., 1983), p1459-1478

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Thaw Settlement Analysis for Buried Pipelines in Permafrost, (Pipelines in Adverse Environments II, 320

Mark Pickell, ed., 1983), p300-325

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O'Brien, James J.

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disc. (of Prevention of Shoaling at Port Orford, Oregon, by C. E. Chatham, HY Nov. 81, p1303-1316), HY Jan. 83, p154-155

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Numerical Modeling of Scour Potential at the Breach of a Causeway, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Choule J. Sonu and Robert E. Potter, p660-672

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disc: Anand Prakash, HY Jan. 83, p164-166
clo: HY Jan. 83, p166-169

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Navigation & Dredging: Port of New York & New Jersey, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p349-360

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see Dennis, Norman D., (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p389-402

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Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al., eds., 1983), p142-145

Oram, Richard L.

Transit Fare and Marketing Innovations to Increase Revenue, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p79-88

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see Singh, Udai P., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p758-765

Orlop, Gerald T. An Alternative to the Peripheral Canal, WR March 82, p123-141

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Variable Sediment Flux and Beach Management, Ventural County, California, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Amalie Jo Brown, p2328-2342

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The Public Be Damned—Grays Harbor Revisited,
(Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1694-1713

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A Dynamic Control Strategy for Water Treatment, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Gordon Kraft and Farrid Bosli, p89-96

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Chemical Reactions within the Root Zone, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with K. K. Tanji, p399-408

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A Ten-Year Reunion with the Oregon Coastal Management Program: A Need to Evaluate, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Neal Coenen, p226-230

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Prototype Experience and Model Studies of Navigation Effects on Inland Waterways, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Claude N. Strauser, p201-206

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Modernization of Grain Elevators, (Proceedings of Ports 83, Kong Wong, ed., 1983), p745-748

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New Equation of Surface Elevation in Wave Motion, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Y. Y. Chen and Frederick L. W. Tang, p505-522

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The Principle of Maximum Entropy for Parameter Estimation of Statistical Distributions, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. O. Sonuga and G. A. Akpoji, p899-902

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Scale Effects of Modeling Flow Conditions in Pump Sumps, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with G. E. Hecker, p153-158

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Practice, W. F. Chen, et al, eds., 1983), p907-910
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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p214-217

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Breakwater Protects Asbury Park's Convention Hall. (Coastal Structures '83, J. R. Weggel, ed., 1983), p186-192

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see Keck, James E., (Recent Advances in Engineering

Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p648-651
see Schmitz, David E., (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice W. F. Chem., 1981. Practice, W. F. Chen, et al, eds., 1983), p691-695

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A Comparison of Finite Element J-Integral Evaluations for the Blunt Crack Model and the Sharp Crack Model, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. M. Kennedy, p763-766

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82, Vol. I, Billy L. Edge, ed., 1983), p804-810

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Landslides in Soils Overlying Franciscan Assemblage, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p167-182

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Civil Engineer's Responsibility for Highway Safety,
(The Role of the Civil Engineer in Highway Safety,
Martin E. Lipinski, ed., 1983), p196-199
Roadway Design and the Impact on Safety, (The Role of
the Civil Engineer in Highway Safety, Martin E.

Lipinski, ed., 1983), p23-32

Phillips, Fran
The Nature and Timing of the Next Wave of Government Regulation, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p8-10

Phillips, James W.

see Costello, George A., ST June 83, p1450-1459

Phinney, Garnet A. Wharf Rehabilitation Rodney Terminal Port of Saint John, New Brunswick, Canada, (Proceedings of Ports 83, Kong Wong, ed., 1983), with S. Reid Giffin, p456-470

see Bachrach, Arrie, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), p36-39

Pichon, Wayne

see Crevensten, Dan, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p380-391

Pidatella, Michael

see Gurol, Mirat D., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p118-124

Pierson, Christopher C.

Shorefront Protection Conflicts upon Implementation, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1617-1626

Pilarczyk, K. W. see den Boer, K., (Coastal Structures '83, J. R. Weggel, ed., 1983), p307-319

Pilecki, T. J. disc. (of Probabilistic Soil Exploration: Case History, by Tien H. Wu and Kinfun Wong, GT Dec. 81, p1693-1711), GT Feb. 83, p274-276

disc. (of Seismic Displacement Analysis of Earth Dams, by Sarada K. Sarma, GT Dec. 81, p1735-1739), GT Dec. 83, p1604-1607

disc. (of Undisturbed Sampling of Saturated Sands by Freezing, by Sukhmander Singh, H. Bolton Seed and Clarence K. Chan, GT Feb. 82, p247-264), GT Apr. 83, p653-654

Pillsbury, Arthur F. disc. (of An Alternative to the Peripheral Canal, by Gerald T. Orlop, WR March 82, p123-141), WR July 83, p266-267

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see Gburek, W. J., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p455-465

Pires, J. E. A.

Seismic Safety of Soil Deposits Against Liquefaction, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Y. K. Wen and A. H. -S. Ang, p871-874

Pise, Prabhakar J.

Lateral Response of Fixed-Head Pile, GT Aug. 83, p1126-1131

Pita, C. R. A. M. see Mol, A., (Coastal Structures '83, J. R. Weggel, ed., 1983), p57-70

Pita, Frank W.

Case Histories: Construction on Canyon Wall Terrain, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with B. Louise Woodward, pl-15 Case History: Incorporating Old Pier in New Facility, (Proceedings of Ports 83, Kong Wong, ed., 1983),

Pitlo, Remmet H. see Boiten, Wubbo, IR June 82, p142-160

Pitt, J. D.

Prototype Tests on Riprap under Random Wave Attack, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with P. Ackers, p1820-1836

Pittendreigh, Lorrin

Monolithic Covers for Water Storage Reservoirs, CE July 83, p14

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see Mahmoud, N. S., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1101-

Plesha, Michael E.

A Computer Method for the Dynamics of Jointed Rock, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Ted Belytschko and Charles H. Dowding, p339-342

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disc. (of One Uses His Umbrella When It Rains, by Kenneth A. Roe, El Apr. 82, p166-171), El Apr. 83, p153-156

Plocg, J. see Pratte, B. D., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1119-1126

Maintenance Standards for a Distribution System with a Limited Water Supply, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p154-159

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Theodor Strelkoff Design, by Albert J. Clemmens, Theodor Strelkoff and Allen R. Dedrick, IR Sept. 81, p265-279), IR March 83, p187-189

Poirot, James W.

How Do You Get the New Hire Off to a Good Start?, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), with Bernice G. Whiteman, p1-6

Poland, Ronald

see McBean, Edward A., EE Feb. 82, p204-209

Pollock, Steven L.

A Planning Approach to Critical Habitat Protection, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Alan W. Avery, Jr., p749-768

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Pedestrian Flow and Level of Service, with Joseph L. Schofer and Ariela Ushpiz, TE Jan. 83, p46-56

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Poole, W. G.,, Jr. see Neves, Kenneth W., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p28-36

Poon, Calvin P. C.

Oxyphotolytic Destruction of Trihalomethane in Water, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Vicki A. Strikler, Michael J. Mulhare and Dale L. Saad, p450-455

Pope, Joan Breakwaters for Beach Protection at Lorain, OH, (Coastal Structures '83, J. R. Weggel, ed., 1983), with

(Coastal Structures 3, J. R. Weggel, ed., 1983), with Darlene D. Rowen, p753-768 Monitoring of a Dolos Armor Cover; Cleveland, OH, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Denton R. Clark, Jr., p193-207 see Patterson, David R., (Coastal Structures '83, J. R. Weggel, ed., 1983), p902-910

Popkin, Barney P. Environmentally Activated Opportunities for the Design and Construction Industry, 1980 to 2000, (Emerging Energy/Environmental Trends and the Engineer, Ronald D. Neufeld, et al, eds., 1983), with Carl L. Brassow, p32-35

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see Pamukcu, Sibel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p111-132

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Steel Struts under Severe Cyclic Loadings, with Gary R.

Steel Struts under Severe Cyclic Loadings, with Gary R. Black, ST Sept. 81, p1857-1881 disc: Milija N. Pavlovic and Leonard K. Stevens, ST Jan. 83, p288-290 clo: ST Jan. 83, p288-290 see Filippou, Filip C., ST Nov. 83, p2666-2684 see Hjelmstad, Keith D., ST Oct. 83, p2387-2403 see Manheim, Daniel N., ST Oct. 83, p2404-2419 see Ortiz, Miguel, EM Aug. 83, p1042-1057

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Simulation and Analysis of Cooling Lake Ecosystems: Impacts of Power Plant Operations, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with G. L. Bowie, T. M. Grieb and R. K. Kawaratani, p797-804

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Porter, D. Melville

disc. (of TheoreticaL Model for Collapse of Shear Webs, by Cedric Marsh, EM Oct. 82, p819-832), EM Dec. 83, p1475-1477

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see Carchedi, David R., (Proceedings of Ports 83, Kong Wong, ed., 1983), p584-598 see Childs, K. M., CE April 83, p54-57

Laboratory Photogrammetric Wave Height Measure-ment, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with F. A. Kilner, p695-709

Posey, Chesley J.

disc. (of Discharge Assessment in Compound Channel Flow, by Peter R. Wormleaton, John Allen and Panos Hadjipanos, HY Sept. 82, p975-994), HY Nov. 83, p1560-1561

Post, James L. disc. (of Swell of Wyoming Montmorillonite and Sand Mixtures, by Mehmit A. Sherif, Isao Ishibashi and B. W. Medhin, GT Jan. 82, p33-45), GT Dec. 83, p1607-1608

Posthuma, Albert R.

The Successful Cleanup of Contaminated Groundwater at Woodland Park, Michigan, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with John G. Kraus and Julie A. Rutherford, p775-782

Potter, David M.

Erosion Control Facilities—Mitigating Their Effect on Coastal Sediment Supplies, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2317-2327

Potter, Robert E.

see Ochi, Yutaka, (Coastal Structures '83, J. R. Weggel, ed., 1983), p660-672

Poulos, Harry G. Cyclic Axial Pile Reponse-Alternative Analyses, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p403-421 Pile Group Analysis: A Study of Two Methods, with Mark F. Randolph, GT March 83, p355-372

Powell, D. C. see Bell, N. E., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p223-229

Powell, Grawam H.

see Row, Dennis, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p474-485

Powell, Gregory M. see Chou, Ivan B., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2361-2377

Powell, Stephen J.
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H. Bryant, ST Sept. 83, p2148-2158

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Cylindrical Long Wave into a Cylindrical Shelf, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p228-244

Powers, J. T.

Hazards to Marine Pipelines, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p144-158

Powers, Michael A. see Kelly, William E., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p556-560

Prakash, Anand

Deterministic and Probabilistic Perspectives of the PMF, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p535-540

Shen, ed., 1983), p535-540
Groundwater Contamination due to Continuous
Sources, HY April 82, p572-90
err: HY Apr. 83, p650
disc. (of Dispersion in Three Dimensions: Approximate
Analytic Solutions, by Budhi Sagar, HY Jan. 82,
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Bends, by A. Jacob Odgaard, HY Dec. 81, p16771694), HY Jan. 83, p164-166

Prasad, B.

An Integrated System Approach to Structural Synthesis, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p155-171

Prasad, Meegada Eswara

see Sathyamoorthy, Muthukrishnan, EM Aug. 83, p1114-1123

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see Borah, Deva K., HY Dec. 82, p1486-1503
see Borah, Deva K., HY Dec. 82, p1504-1517
see Gopu, Vijaya K. A., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p399-402
see Singh. Vijay P. (Advances in Irrivation and Drain-

see Singh, Vijay P., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p234-241

Pratsch, Lew W. disc. (of Reagan's Lopsided Energy R&D Policy: Peril to U.S. Security?, by Eugene E. Dallaire, CE Jan. 83, p56-67), CE Dec. 83, p28

Pre-Engineered Metal Buildings: The Story Behind Their Rapid Growth, CE Apr. 83, p52-56

Pratt, Jeremy see Garcia, John, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1763-1780

Pratt, Robert H.

Proving Claim Damages by Employing Forensic Estimating Techniques, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p105-118

Pratte, B. D.

Harbour Sedimentation-Comparison with Model, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with D. H. Willis and J. Ploeg, p1119-1126

see Mansard, E. P. D., (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2621-2640

Surfing Interests in Coastal Zone Planning, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2683

Prawel, S. P.

see Reinhorn, A. M., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p725-736

Prendiville, Paul W. Upgrading Water Filtration Plants, CE Oct. 83, p64-67

see Retief, G. de F., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p245-260 see Witthaus, K. G., (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2189-2203

Preussler, Ernesto S.

see de Medina, Jacques, GT May 82, p697-712

Prevost, Jean H.

Dynamic Fluid-Structure-Soil Interaction, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Thomas J. R. Hughes,

Prevost, R. C

see Kienow, K. K., (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p431-455

Price, W. A. Some Thoughts on the Future Design of Breakwaters (Coastal Structures '83, J. R. Weggel, ed., 1983), p1-2 Prime, Kermit L.

see Fritz, Walter R., (National Conference on Envimental Engineering, Allen Medine, et al. eds., 1983), p58-65

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see Marti, Joaquin, (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p372-375

Pritchard, Michael S.

see McCuen, Richard H., El Jan. 83, p1-9

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Prucz, Zolan
On Reliability and Active Control of Tension Leg Platforms, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Tsu T. Soong, p903-906

Prusza, Z.

Characteristics of Guri Soils, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with D. E. Kleiner and A. V. Sundaram, p183-199

Psuty, N. P.

see Nakashima, L. D., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p682-696

Psuty, Norbert P.

see Nordstrom, Karl F., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p873-885

Puccia, Charles J.

Qualitative Models for Marine Environmental Assessment, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1-14

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see Shilepsky, Alan P., WR Apr. 83, p165-173

Puls, Walter

disc. (of Length of Flow Separation over Dunes, by Peter Engel, HY Oct. 81, p1133-1145), HY Jan. 83,

Puri. Anish N.

Penalty Function for 2-D Hydrodynamic Model, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Chin Y. Kuo, p356-361

Pusch, Roland

Borehole Sealing for Underground Waste Storage, GT Jan. 83, p113-119

Putcha, Chandrasekhar

Reliability Analysis of Reinforced Concrete Columns Based on ACI 318-77, (Recent Advances in Engi-neering Mechanics and Their Impact on Civil Engi-neering Practice, W. F. Chen, et al, eds., 1983), with Faramarz Mokri-Argane, p932-935

Putcha, N. S.

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disc. (of U.S. Bridges: The Bias Towards Mediocrity, by Rowland Richards, Jr., CE April 83, p62-66), CE Aug. 83, p24

Puyuelo, Javier Gomez

Oriven Piles in a Granular Calcareous Deposit, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Javier Sastre and Antonio Soriano, p440-456

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Large Deflection and Stability of Rigid Frames, with Donald A. DaDeppo, EM June 83, p765-780

see Wang, D. W., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p821-824

Qi-gen, Song

Study of Reinforced Concrete Bond Specimens by FEM, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p710-713

n, Bosheng

Cluster Frequencies of Continuous Uniform Plates, with Chuan C. Feng, ST Dec. 83, p2893-2904 Frequencies of Continuous Plates by Moment-Ratio

Method, with Chuan C. Feng, ST Dec. 83, p2905-2921

Qiu, Dahong
The Maximum Total Wave Forces on Pile Group,
(Coastal Structures '83, J. R Weggel, ed., 1983),

Quasebarth, Thomas F. see Hartigan, John P., EE Dec. 83, p1259-1272

Quigley, D. W. see Singh, J. P., (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p81-98

Quigley, Robert M. Chemical Profiles in Soft Clays and the Role of Long-Term Diffusion, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with Valerie E. Crooks, p5-18

Duimpo, Rafael G.

Regionalized Flow Duration for Philippines, with Angel A. Alejandrino and Thomas A. McNally, WR Oct. 83, p320-330

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see Rumer, Ralph R., Jr., TC Aug. 83, p105-116

Quinn, Stephen B. Record Concrete Box Girder Spans Houston Ship Channel, CE Nov. 83, p46-50

Quiros, G. W.

Shear Strength Interpretation for Gulf of Mexico Clays, (Geotechnical Practice in Offshore Engineering, Stepehn Wright, ed., New York: ASCE, 1983), with A. G. Young, J. H. Pelletier and J. H-C Chan, p144-165

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see Hirtzel, Cynthia S., EE June 82, p488-501

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disc. (of Treatment of Saline Domestic Wastewater Using RBCs, by Nancy E. Kinner and Paul L. Bishop, EE Aug. 82, p650-664), EE Aug. 83, p983-984

Rabbat, B. G.

Computer Aided Optimization of Bridge Girders, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with T. Takayanagi, p646-659

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Rabins, Michael

see Hrovat, Davorin, EM June 83, p691-705

Race, Margaret S

An Assessment of Salt Marsh Restoration and Implications for Coastal Zone Management, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1473-1476

Rackwitz, R.

see Hohenbichler, M., EM June 83, p896-907

Rader, Clifford D.

The Corps of Engineer's Public Interest Review Process: Is It Working?, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2086-2091

Bus Priority Strategy: Justification and Environmental Aspects, with David A. Benevelli, TE Jan. 83,

see Kellie, Andrew C., SU March 83, p14-23

Radzikowski, Phillip

see Donovan, Leo, (Proceedings of Ports 83, Kong Wong, ed., 1983), p97-106

see Benassai, E., (Coastal Structures '83, J. R. Weggel, ed., 1983), p222-234

Rahimzadeh, Jalii see Wen, Robert K., ST Aug. 83, p1952-1971

Rai, S. P.

Maximum Wave Force on a Horizontal Cylinder, (Coastal Structures '83, J. R Weggel, ed., 1983), with M. H. Abdul Khader, p482-491

Raichlen, Fredric see Lee, Jiin-Jen, WW May 82, p200-218

Rains, Bernard A.

see Blasiar, David A., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p589

Raithby, G. D.

Calculation of Environmental Flows in Complex Geometries, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p292

Rajagopalan, Krishnaiyengar

disc. (of External Pressure and Sectional Behavior of Fabricated Tubes, by Shouji Toma, Wai F. Chen and Lyle D. Finn, ST Jan. 82, p177-194), ST Feb. 83, p594 disc. (of Finite Beams on Elastic Foundation with Restraints, by Bing-Yuan Ting, ST March 82, p611-621), ST Apr. 83, p1077-1079 disc. (of Uniform Element Modeling of Tapered Frame Members, by Eryk Kosko, ST Jan. 82, p245-264), ST

Apr. 83, p1064-1065

Rajapakse, R. K. N. D. Infinite Elements for Elastostatics of Half Spaces, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Pisidhi Karasudhi, p835-838

Rajaratnam, Nallamuthu

Diffusion of Bluff Wall Jets in Finite Depth Tailwater, with Joseph A. Humphries, HY Nov. 83, p1471-1486 Erosion by Plane Wall Jets with Minimum Tailwater, with Roger K. Macdougall, HY July 83, p1061-1064
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see Singh, Vijay P., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p242-249

Ramalho-Ortigao, J. A. Embankment Failure on Clay near Rio de Janeiro, with Mauro L. G. Werneck and Willy A. Lacerda, GT Nov. 83, p1460-1479

Ramamurthy, L. N. L-Shaped Column Design for Biaxial Eccentricity, with T. A. Hafeez Khan, ST Aug. 83, p1903-1917

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see Burns, Scott A., ST July 83, p1669-1679

Raman, H.

see Shankar, N. Jothi, (Coastal Structures '83, J. R. Weggel, ed., 1983), p492-504

Ramana, K. V.

Membrane Penetration in Triaxial Tests, with V. S. Raju, GT Feb. 82, p305-310 err: GT Feb. 83, p277

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disc. (of Characterization of Asphalt Emulsion Treated Bases, by Michael S. Mamlouk and Leonard E. Wood, TE March 81, p183-196), TE Jan. 82, p135-136

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see Haniu, H., (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1299-1302

Ramey, George E. Force-Displacement Behavior of Concrete Bridge, ST Nov. 83, p2600-2618

Lift System for Raising Continuous Concrete Bridges, TE Sept. 83, p733-746

Ramos, F. Silveira

see Toppler, J. F., (Coastal Structures '82, J. R. Weggel, ed., 1983), p3-16

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Rand, Leonard M.

see Soper, Stacey E., (Proceedings of the Eighth Con-ference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p287-297

Randall, Alan D.

see Crawford, James P., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2054-2072

Randolph, M. F.

Design Considerations for Offshore Piles, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p422-439

Randolph, Mark F.

see Poulos, Harry G., GT March 83, p355-372

Rangan, B. V. see Hall, A. S., ST Nov. 83, p2638-2650 see Mansur, M. A., ST Apr. 83, p993-1009

Rango, A. see Jones, E. B., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p484-493

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Rankin, Charles R.

see Almroth, B. O., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1071-1074

Rao, A. Ramachandra
Parametric Spectral Analysis, (Recent Advances in
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Three-Parameter Probability Distribution of Best Hydrologic Bounds, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p486-491

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Billy L. Edge, ed., 1983), with G. K. Prestedge and F.
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Los Angeles Harbor Kelp Transplant Project, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1082-1089

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Modernization of a Container Terminal, (Proceedings of Ports 33, Kong Wong, ed., 1983), with Wade W. Watson, p254-268

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Coastal Zone Management and Energy Development: Who Pays the Price?, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), with Edward Kaplan,

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Mechanical Reliability and Plant Performance, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p561-568

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1983), with Peter F. Larsen, p817-828

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see Feige, Walter A., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p32-33

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see Posthuma, Albert R., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p775-782

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Ryden, Tom K., ed.

Managing Urban Transportation with Limited Resources, 1983, 103pp.

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see Tang, Wilson H., (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al., eds., 1983), p895-898

see Downie, K. A., (Coastal Structures '83, J. R. Weggel, ed., 1983), p846-859

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Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p714-717 see Millstein, Leonid, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p561-564

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Amplification of Turbulence in Flow Approaching an Airfoil, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Peter P. Sullivan, p1232-1234

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see Kajima, Ryoichi, (Proceedings of Coastal Engi-neering 82, Vol. II, Billy L. Edge, ed., 1983), p1385-1404

Statal, 1.

Turbulence Generated by Wave Breaking on Beach, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), with Y. Inada and I. Sandanbata, p3-21

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akowicz, Eric R.

Streamlining the Environmental Review Process for Projects in the Coastal Zone, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Gregory W. Mohr, p2552-2570

Salama, M.

Parallel Solution of Finite Element Equations, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with S. Utku and R. Melosh, p526-539

see McGregor, J., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p540-553

Salamon, N. J.

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An Improved Consolidation Law of Highly Compressive Clays, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Tsu T. Soong and Francis A. Cozzarelli, p1013-1015

Saleh, Fathy M. A. Kinetics of Bed Contact Flocculation, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with John L. Cleasby, p125-135

Mixing in the Epilimnion of the Dead Sea, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Donald R. F. Harleman and E. Eric Adams, p28 Salvadori, Mario G.

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Utility Corridors for Pipeline Construction, (Pipelines in Adverse Environments II. Mark Pickell, ed., 1983). p420-430

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Professional Liability Coverage for the CM, (Liability in Construction Management, David M. Lee, ed., 1983), p38-42

Sangal, Beni P. Practical Method of Estimating Peak Flow, HY Apr. 83, p549-563

santeford, Henry S.

Effects of an Ice Cover—A Conceptual Model, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with George R. Alger, p242-247

Saouma, Victor E.

Computer Graphics Aided Instruction of Structural Engineering, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Ronald G. Hoelzeman, p209-222

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Internal Structure and Turbulent Entrainment Characteristics of the Saline Wedge, (Frontiers in Hydrau-lic Engineering, Hung Tao Shen, ed., 1983), with Gerhard H. Jirka, p7 see Jirka, Gerhard H., HY Dec. 81, p1631-1650

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Dynamic Response of a Multilayer Bimodulus Beam, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with V.

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Finite Element, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with V. I. Weingarten, p243-246

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Building a Port under Unusual Site Conditions, (Proceedings of Ports 83, Kong Wong, ed., 1983), with G. A. Munfakh and R. J. Castelli, p269-283

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Underwater Filling of Longard Tubes, (Coastal Structures '83, J. R Weggel, ed., 1983), with John Larsen, p610-618

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Magnitude and Frequency of Urban Floods in the United States, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with W. O. Thomas, Jr., V. A. Stricker and K. V. Wilson, p534 see Stricker, V. A., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p559

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Computation of Particle Paths Using the Lagrangian Long Wave Equations, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with J. van de Kreeke, p652-676

Sawada, Tomoyuki Seismic Stability of Nonhomogeneous, Anisotropic Slopes, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Sumio G. Nomachi and Wai F. Chen, p1009-1012

Sawamiphakdi, K. Study of Numerical Efficiency on Nonlinear Analysis of Thin Shells, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with T. Y. Chang, p668-678

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Measurements of Turbulence over Vortex-Ripple, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Toshihiko Yamashita and Tadashi Kitamura, p282-296

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Correlates of Community Development, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), with Ruth C. Schaffer, p45-55

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Scheiner, James I.

Managing Limited Transportation Resources in Penn-Janaging Limited Transportation Resources in Felli-sylvania's Department of Transportation, (Managing Urban Transportation with Limited Resources, Tom K. Ryden, ed., 1983), p89-93

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(Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p586

Joint Probability Method in Barrier Island Systems,
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Breach/Inlet Interaction at Moriches Inlet, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with R. M. Sorensen, M. J. McCarthy and G. Nersesian, p1062-1077

see McCarthy, M. J., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983),

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Scholtz, D. J. P. Dolos Stability Effect of Block Density and Waist Thickness, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with J. A. Zwamborn and M. van Nickerk, p2026-2046

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Cavitation Resistance of Concrete Structures, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p419-424

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Schultz, Donald M. Experimental Facilities for Earthquake Research at CTL, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F Chen, et al, eds., 1983), with Henry G. Russell and W. G. Corley, p609-612

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Schwartz, Maurice L.

Schwartz, Washington-Is There a Solution to the Beach Erosion Problem?, (Coastal Structures '83, J. R. Weggel, ed., 1983), p785-791

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Safety Considerations and TSM, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), with Richard A. Retting, p121-129

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Pilot Studies Apply Asphalt Concrete in Railroad Beds: Expected to Eliminate Subballast, CE June 83, p16 Seabergh, William C. Physical Model Study of Weir Jetty Design, (Coastal Structures '83, J. R. Weggel, ed., 1983), p876-893

Seck-Hong, Chue Mechanics of Static Catenary with Current Loading, WW Aug. 83, p340-349

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Earthquake-Resistant Design of Earth Dams, (Seismic Design of Embankments and Caverns, Terry R.

Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p41-64
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Seeley, John C.

Pipelines in Adverse Environments, (Pipelines in Adverse Environments 11, Mark Pickell, ed., 1983), p468-473

Seeley, Paul N.

A Case History of Developing Water Quality Standards and Use Classification by a Shale Oil Industry, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Allan L. Udin, p783-788

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Nov. 83, p490-494

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Wave Reflection From Coastal Structures, (Coastal Structures '83, J. R. Weggel, ed., 1983), p961-973

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Operation and Control of Municipal Co-Incineration Systems, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p375-

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Connecticut Embayments Study: A Basis for Allocating State and Local Resources for Coastal Management in the 1980's, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Dana C. Rowan, p2251-2268

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82, Vol. II, Billy L. Edge, ed., 1983), p1231-1247

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Wong, ed., 1983), p141-151

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Natural Bar-Bypassing of Sand at a Tidal Inlet,
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L. Edge, ed., 1983), with Miles O. Hayes, p1479-1495

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Seymour, Richard J.

The Nearshore Sediment Transport Study, WW Feb. 83, p79-85

Shabica, Stephen V.
Multiple Beach Use, Does It Work? A Case Study,
(Coastal Zone '83, Orville T. Magoon, et al, eds.,
1983), with Michael Cousens, p2186-2200

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disc. (of What Type of Sewer Pipe is Best? Life-cycle Cost Analysis Yields Answer, by Thomas Moss and Edward J. Jankiewicz, CE Oct. 82, p75-76), CE June 83, p28

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Shah, Ashwin

Random Vibration of Continuous Beams, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with D. A. Gasparini, p259-262

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Probabilistic Risk Assessment of Existing Dams, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Martin W. McCann and Joseph B.

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chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p977-980 see Wecharatana, M., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p993-996

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Shanahan, Peter

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Wave Forces on a Submerged Cylinder Near a Plane Boundary, (Coastal Structures '83, J. R. Weggel, ed., 1983), with H. Raman and V. Sundar, p492-504

Shapiro, Harvey A. Coastal Citizens Movements in Japan and California, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Thomas A. Zanic, p1803-1822

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Sharp, James J.
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Shen, Hung Tao Hydraulic Resistance of River Ice, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p224-229

Shen, Hung Tao, ed.

Proceedings of the Conference on Frontiers in Hydraulic Engineering, 1983, 617pp.

Shen, Thomas T.

see Helsing, Lyse D., (National Conference on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), p670-679

Sheng, Y. Peter Modeling Coastal Currents and Sediment Transport. (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with H. Lee Butler, p1127-1148

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Shephard, Mark S.

Computer Graphics in a Finite Element Course, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p197-208

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Nelson, Jr., ed., 1983), p144-154

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Shibayama, Tomoya

Sediment Transport and Beach Transformation, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with Kiyoshi Horikawa, p1439-1458

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Soil Surface Evaporation and Water Table Depths, IR Dec. 83, p366-376

Random Piping Responses to Condensation Oscillation Loads, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with P. C. Sun, p205-208

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Shillington, F. A.
Wave Energy Variation Near Cape Town, South Africa, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p473-484

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see Yaron, S. L., (Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1786-1799 Shiner, James A.

Dock Renovation in Corpus Christi-Aspects of Fendering, (Proceedings of Ports 83, Kong Wong, ed., 1983), with William F. Goldston, p612-620

Shinozuka, M. Basic Analysis of Structural Safety, ST March 83, p721-740

Random Processes in Engineering Mechanics, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), p18-46
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Model Study of Elastic - Plastic Pile Foundation, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p62-73

Shupe, Steven J.

Legal Impediments to Coastal Aquaculture, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1550-1571

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Silka, Lyle R. Ground-Water Quality Modeling as a Management Tool, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Audrey G. Kretschek, p532-539

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Control of Activated Sludge Settling in an SBR, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with E. D. Schroeder, p238-246

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Geological Aspects of a Cutting Failure in Clay, (Geological Environment and Soil Properties, Ray-mond N, Yong, ed., 1983), with Michel Soulié and Jean Lafleur, p19-38

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Acoustic Emission for Dam Safety Monitoring, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Rug-Ming Li, Yung Hai Chen, Thomas H. VonderHaar and Thomas A. Brubaker, p465-466 see Bathurst, James C., HY Dec. 81, p1593-1613 see Thorne, Colin R., (disc), HY Apr. 83, p653-655

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Simpson, A. R. see Coleman, H. W., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p438-443 see Morel-Seytoux, H. J., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p124-133 see Young, R. A., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p134-140

Simpson, Larry D.
Impact of Storage Reservoirs on the Eastern Front
Range of Colorado, (Accomplishments and Impacts of
Reservoirs, Gordon Green, et al, eds., 1983), p87-93
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Simpson, Thomas W Land Application of Sewage Sludge for Agricultural Reuse in Virginia, (National Conference on Envi-ronmental Engineering, Allen Medine, et al, eds., 1983), with Calmet M. Sawyer, p878-883

Sims, J. M.

Interactive Structural Software for Micros, (Proceedings of the Eighth Conference on Electronic Computation James K. Nelson, Jr., ed., 1983), with H. R. Lundgren, p242-252

Sims, Ronald C.

Engineering Parameters for Soil Treatment of Polynuclear Aromatic Compounds, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with M. R. Overcash, p479-485 see McConnell, Linda K., (National Conference on

Environmental Engineering, Allen Medine, et al,

eds., 1983), p419-425
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Singh, J. P.
Valdez Silts: A Challenge in Design of Offshore Engineering, Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with D. W. Quigley, p81-98

Singh, Krishan P. Role of AMC in Computing Runoff with Curve Numbers, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p609

Singh, M. P.

Random Thermal Stresses by Finite Elements, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with T. Kuppusamy and R. A. Heller, p652-655

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Singh, Sukhmander Undisturbed Sampling of Saturated Sands by Freezing, with H. Bolton Seed and Clarence K. Chan, GT Feb. 82, p247-264 disc: T.J. Pilecki, GT Apr. 83, p653-654

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Cleanup of the Miami Drum Hazardous Waste Site, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Thomas C. Emenhiser, J. I. Garcia-Bengochea and James E. Orban, p758-765

Implementation Aspects of Water Resources Planning in India, (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p203-210

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Singh, Vijay P. A Semi-Analytical Approach to Kinematic Wave Equations for Design of Border Irrigation, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with Rama S. Ram, p242-249

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see Mark, Bernstein, (Proceedings of Coastal Engi-neering 82, Billy L. Edge, ed., 1983), p2581-2594

Smith, A. W.
The Behavior of Prototype Boulder Revetment Walls, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1914-1929

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Smith, George Anthony

The Construction Manager as Expert Witness, (Liability in Construction Management, David M. Lee, ed.,

Smith, James D.

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Modernization of Alaska's Fishing Harbors, (Proceedings of Ports 83, Kong Wong, ed., 1983), p599-611 The Alaska Coastal Data Collection Program, (Coastal Zone '83, Orville T. Magoon, et al., eds., 1983), with David L. Kriebel and James T. Bales, p1153-1167

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ceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p108-128

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Measurement of Ice Forces on Structures, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), with F. D. Haynes, p139-155

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Eigenvalues of Structures Carrying Sheets of Liquid, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p201-204

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Drainage by an Intercepting Pump Station, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p337-343

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Small Hydroelectric Development Computer Analysis, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p406-411

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Groundwater Quality in Six Western States, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with Jim L. Thomas and J. C. Guitjens, p275-281 Urban Runoff Quality: Information Needs, TC Aug. 80, p29-40

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see Salazar, Ricardo, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1013-

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Planning Redevelopment and Modernization-Port of Oakland, (Proceedings of Ports 83, Kong Wong, ed., 1983), p62-73

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see Coulter, Carleton, III, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), p6-20

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European Experience in Conteneration, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Richard E. Foerster, Carl M. Koch and John E. Spitko, Jr., p366-374
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Practice, W. F. Chen, et al., eds., 1983), p952-955

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Motivation - The Key to Successful Plant Design, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p55-67

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see Srinivasaraghavan, R., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p715-723

see Abrate, S., (Recent Advances in Engineering Me-chanics and Their Impact on Civil Engineering

chanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p351-354 see Chen, J. K., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p515-518

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82, Vol. II, Billy L. Edge, ed., 1983), p1640-1658
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see Christopherson, Alan, (Pipelines in Adverse Envi-ronments II, Mark Pickell, ed., 1983), p362-374

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On the Goals of Computation in Stress Analysis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p818-820

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Takahashi, Yoshihiro Elastic Stability of I-Beam under Patch Loadings, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Sumio G. Nomachi, Shouji Toma and Takashi Mikami, p1126-1129

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Modernization and Upgrading of the Dock and Associated Facilities at Iquitos, Peru, (Proceedings of Ports 83, Kong Wong, ed., 1983), with G. P. Tsinker and R. Delgado Sayan, p621-634

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Task Committee on Causes and Effects of Shoaling of Navigable Waters of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, (James Neihelsel, chun.) Shoaling Processes in Navigable Waters, WW May 83, p199-221

Task Committee on Hydrographic Investigations of the Committee on Waterways of the Waterway, Port, Coastal and Ocean Division, chmn.)

Measurement of Hydrographic Parameters in Large Sand-Bed Streams from Boats, 1983, 81pp.

Task Committee on Nuclear Effects of the Committee on Air Resources and Environmental Effects Manage-ment of the Environmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger,

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Task Committee on Nuclear Effects of the Committee on Air, Noise, and Radiation Management of the Envi-ronmental Engineering Division of the American Society of Civil Engineers, (Paul Kruger, chmn.) Nuclear Waste Management, 1982, 52pp.

Task Committee on Pure Oxygen Activated Sludge of the Committee on Water Pollution Management of the Environmental Engineering Division of the American Society of Civil Engineers, (Larry Benefield, chum.) Activated Sludge: A Comparison of Oxygen and Air Systems 1092, 1132-1132 Systems, 1983, 112pp.

The Task Committee on Rotating Biological Contactor Water Pollution Management Committee, Environ-mental Engineering Division, American Society of

Civil Engineers, chunn.)
Rotating Biological Contactor for Secondary Treatment, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p929-968
Secondary Treatment Alternatives Attached Growth
Systems, (National Conference on Environmental
Engineering, Allen Medine, et al, eds., 1983), p910-

Task Committee on Viruses in Drinking Water of the Committee on Water Supply and Resources Man-agement of the Environmental Engineering Division, chmn.)

The Incidence, Monitoring, and Treatment of Viruses in Water Supply Systems, 1983, 85pp.

Task Committee to Prepare a Planning Guide of the Urban Planning and Development Division, (Richard S. Howe, chmn.)

Civil Engineering Planning Guide: Part I—Framework for Planning, UP May 82, p34-69 disc: Gunther Greulich, UP Sept. 83, p97-99

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The Technical Committees of the ASCE Technical Council on Lifeline Earthquake Engineering, (William J. Hall, chmn.)

Advisory Notes on Lifeline Earthquake Engineering, 1983, 232pp.

Tedesco, J. see Zimmerman, M., (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p722-736

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Investigations on Atchafalaya Bay Sediments, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p85-90

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II, Mark Pickell, ed., 1983), p668-681

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Thomas, C. Peter Sewer Force Mains for a Congested Suburban Area, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p607-619

Thomas, H. Randolph Crew Performance Measurement via Activity Sampling, with Jeffrey Daily, CO Sept. 83, p309-320

see Sonnen, Michael B., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p275-281

Ce-Sheet Melting and Sea Level, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with D. E. Thompson, R. A. Bindschadler and D. R. MacAyeal, p2846-2857

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Authority Structures for Construction Project Management, with John M. Keating and Allen C. Bluedorn, CO Dec. 83, p406-422

Thomas, Segun O.
see Stubbs, Norris, (Recent Advances in Engineering
Mechanics and Their Impact on Civil Engineering
Practice, W. F. Chen, et al., eds., 1983), p389-392

Thomas, W. Anthony

see Brown, Bobby J., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p147-152
see McAnally, William H., (Frontiers in Hydraulic
Engineering, Hung Tao Shen, ed., 1983), p91-95

Thomas, W. O.

see Moss, M. E., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p520-527

Thomas, W. O., Jr.
see Sauer, V. B., (Frontiers in Hydraulic Engineering,
Hung Tao Shen, ed., 1983), p534

nopoulos, N. T.

see Longinow, A., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p911-914

see Burcharth, Hans F., (Coastal Structures '83, J. R. Weggel, ed., 1983), p71-82

Thompson, D. E. see Thomas, R. H., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2846-2857

Thompson, E. F.
Prediction of Wave Height in Shallow Water, (Coastal Structures '83, J. R. Weggel, ed., 1983), with C. L. Vincent, p1000-1007

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Application of Cafe to the Irish Sea, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Yasuo Onishi, p369-374

Thermal Application of Leendertse's 2-D Model, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Richard M. Ecker, p584

Thompson, R. L.

The Development of Nonlinear Constitutive Models for Structural Analysis of Turbine Engine Components, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with T. Y. Chang, p539-544

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disc. (of Bedload and Size Distribution in Paved Gravel-Bed Streams, by Gary Parker, Peter C. Klingeman and David G. McLean, HY April 82, p544-571) with Richard D. Hey, HY May 83, p791-793

disc. (of Mathematical Model for Erodible Channels, by Howard H. Chang, HY May 82, p678-689) with Daryl B. Simons, HY Apr. 83, p653-655 see Hey, Richard D., HY June 83, p842-851

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Thorpe, J. Derle

Cold Regions Concreting, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), with Jules Houde, Bruce A. Suprenant, Valery Tokar and Harold B. Wenzel, p59-71

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see Smart, John D., (Seismic Design of Embankments and Caverns, Terry R. Howard, ed., 1983), p79-95

Tichy, Robert J.

Concomitant Strength Relationship for Lumber, ST Aug. 83, p1854-1868

Tiffney, W. N., Jr. Nitrogen-Fixing Plants for Coastal Management, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with D. E. Eveleigh, pl02-111

Tillman, Steven M.

Young's Modulus of Subcoal Strata by Ultrasonic Testing, GT May 83, p747-751

Timco, G. W.

Improvements in Modelling Rubble-Mound Breakmateria in modelling Rubble-Mound Break-waters, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with E. P. D. Mansard, p2047-2061

On the Interpretation of Rubble-Mound Breakwater Tests, (Coastal Structures '83, J. R. Weggel, ed., 1983),

with E. P. D. Mansard, p83-93

Timmermans, W. J. Design of Offshore Pipelines for Ice Environments, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p69-98

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Tjelta, Tor-Inge
Deep Water Soil Investigation: Planning to Results,
(Geotechnical Practice in Offshore Engineering,
Stephen Wright, ed., New York: ASCE, 1983), with
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To, C. W. S.

Random Response of Mast Antenna Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p279-282

Tobin, L. Thomas see McCarthy, Richard J., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1600-1604

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see Fotinos, George C., (Proceedings of Ports 83, Kong Wong, ed., 1983), p141-151 see Otus, Mahmut, (Proceedings of Ports 83, Kong Wong, ed., 1983), p129-140

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see Leonard, Donald J., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p211-224

Todeschini, R. A. A. see Selvadurai, A. P. S., (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p259-278

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see Yazicigil, Hasan, WR March 82, p67-85

Tofflemire, T. James

see Buckley, Edward H., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p662-669

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Toldy, Francis Storm Water Retention Facilities, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p610

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Topper, Dennis R.

Integrating CAI in CE Courses at the USAF Academy, (Proceedings of the Eighth Conference on Electronic

Computation, James K. Nelson, Jr., ed., 1983), p182-185

Topping, B. H. V. Shape Optimization of Skeletal Structures: A Review, ST Aug. 83, p1933-1951

Toppler, J. F.

West Breakwater-Sines Overview of Rehabilitation and Synthesis of Project, (Coasial Structures '82, J. R. Weggel, ed., 1983), with A. Steenmeyer, M. A. Goncalves da Silva, H. Ligteringen and F. Silveira Ramos, p3-16

Torkamani, Morteza A. M. Elasto-Plastic Analysis of Material with Uniaxial Symmetric Tresca Yield Condition and Cyclic Loading, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), with Mohammad R. Pajand, p738-741

see Paulson, Boyd C., Jr., TC Aug. 83, p89-104

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see Krinitzsky, E. L., (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), p137-

Toyoshima, Osani

Variation of Foreshore Due to Detached Breakwaters, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p1873-1892

Trahair, Nicholas S

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see Niedoroda, Alan William, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1353-1368

Trefry, John H.

Drilling Mud Discharges: Minimizing Environmental Mismatches, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Robert P. Trocine and Kathleen C. Yhip, p1228-1237

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Optimum Design of Building Systems, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Franklin Y. Cheng, p98-101

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see Hwung, H. H., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p862-886

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Tsai, Eric C.

disc. (of Heat Loss from Rapid Infiltration Basin in Winter, by Heinz G. Stefan, EE Feb. 82, p141-158), EE Dec. 83, p1438-1440

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Tsai, Frank Y.

Coastal Barrier Resources Act and The National Flood Insurance Program, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2020-2023

see Houston, James R., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2024-2036

Tsai, Y. J.

Storm Surge Modeling in Coastal Flood Plain Management, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2005-2019

Resistance of Beauharnois Canal in Winter, HY Feb. 82, p167-186 disc: Darryl J. Calkins and George D. Ashton, HY

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Tseng, T. S. Simple Plasticity Model of Two-Surface Type, with G. C. Lee, EM June 83, p795-810

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see Tanner, R. G., (Proceedings of Ports 83, Kong Wong, ed., 1983), p621-634

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Anchored Sheet-Pile Bulkheads: Design Practice, GT Aug. 83, p1021-1038

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Spectral Properties of Turbulence and Reynolds Stress

in a Shearing Flow, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Toshimitsu Komatsu, p1242-1245

Tsuchiya, Yoshito

The Rate of Longshore Sediment Transport and Beach Erosion Control, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), p1326-1334 see Yasuda, Takashi, (Proceedings of Coastal Engineering 82, Vol. 1, Billy L. Edge, ed., 1983), p22-37

Tsui, P. -S.

see Guitiens, J. C., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p63-70

see Guitjens, J. C., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p320-327

Tsui, Yuet

Wave-Induced Pore Pressures in Submerged Sand Layer, with Steven C. Helfrich, GT Apr. 83, p603-618

Tubbs, Peter B. Pier Stabilization Eliminates Need to Reconstruct Damaged Bridge, CE Nov. 83, p58-59

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see Clyde, Eric S., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p413-418

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see Pamukcu, Sibel, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p111-132

Tung, Andrew T. -C.

see Adrian, Ronald J., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1287-1290

Tung, Chi C.

Seismic Response of Submerged Oil Storage Tank, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p299-302

Tung, Yeou-Koung Point Rainfall Estimation for a Mountainous Region, HY Oct. 83, p1386-1393

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Goodwin Dam Hydroelectric Project, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with John R. Lavigne, Jr., p595

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Tyrrell, Patrick T.

Design Rainfall Patterns for the State of Wyoming, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p494-502

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Uchrin, Christopher G.

disc. (of Dispersion in Mountainous Natural Stream, by Hasa Bajraktarevic-Dobran, EE June 82, p502-514), EE Aug. 83, p969-970

Ucnikura, Douglas E.

Santa Barbara Petroleum Transportation Committee, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2096-2107

Uda, Takaaki

Description of Beach Changes Using an Empirical Predictive Model of Beach Profile Changes, (Pro-ceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with Hiroshi Hashimoto, p1405-

see Hashimoto, Hiroshi, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1369-1384

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see Seeley, Paul N., (National Conference on Environ-mental Engineering, Allen Medine, et al, eds., 1983), p783-788

Udwadia, F. E.

Parameter Identification Problems in Structural and Geotechnical Engineering, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. A. Garba, p319-322

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disc. (of Mandatory Continuing Education: A Legislative Myth?, by Arthur T. Nielsen, CE Feb. 83, p34-36), CE Nov. 83, p32

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Urban Water Resources Research Council of the American Society of Civil Engineers, chmn.) Annotated Bibliography on Urban Design Storms, 1983, 41pp.

Urbano, C. see Finzi, L., (disc), ST June 83, p1521-1522

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Valentine, Michael R.

Title Settlements in San Francisco Bay Historic Wetlands Using the Land Bank Method, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p456-474

Vallabhan, C. V. Girija Iterative Analysis of Nonlinear Glass Plates, ST Feb. 83, p489-502

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Attenuation of Ground-Water Contaminant Pulses, with Paul V. Roberts, HY Dec. 83, p1665-1682

Van Damme, L. V. Zeebrugge's Main Breakwaters, (Proceedings of Coastal Engineering 82 Vol. II, Billy L. Edge, ed., 1983), p1745-1764

van de Graaff, Jan

Probabilistic Design of Dunes, (Coastal Structures '83, J. R. Weggel, ed., 1983), p820-831

van de Kreeke, J.

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van de Kreeke, Jacobus Residence Time: Application to Small Boat Basins, WW Nov. 83, p416-428

Van Dijk, W. S.
Gansbaai Fishing Harbour—The Design and Construction of a Breakwater on a Hostile Coast, (Proceedings of Coastal Engineering 82, Vol. 11, Billy L. Edge, ed., 1983), with A. P. M. Vonk and G. de F. Retief, p1716-1732

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van Oorschot, Jan H.
Breakwater Design and the Integration of Practical
Construction Techniques, (Coastal Structures '83, J. R. Weggel, ed., 1983), p108-121

van Rijn, Leo C. Equivalent Roughness of Alluvial Bed, HY Oct. 82, p1215-1218 disc: Peter Engel, HY Sept. 83, p1247-1250

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Van Wart, Thomas R.

Modifications to Oil Handling Berths at Bayonne, N.J., Proceedings of Ports 83, Kong Wong, ed., 1983), with Jeff Easthope, p772-787

van Wyk, A. C. Wave-Induced Ship Motions in Harbour Entrances—A Field Study, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2681-2699

Vanderbilt, M. Daniel

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VanLuchene, Dan

Dynamic Graphic Devices and Structural Analysis, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p126-129

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Vansant, Robert E.

Liability: Attitudes and Procedures, El Oct. 83, p276-281

see Bedford, K. W., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p122

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see Taranath, B. S., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p622-632

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Vaudrey, Kennon D.

Characterization of Offshore and Coastal Ice Conditions, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p3-16

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Vaughn, Roger J. Excerpts from: Rebuilding America—Financing Public Works in the 1980s, CE Sept. 83, p65-68

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Perceived Factors Affecting Driver Route Decisions, with Tenny M. Lam, TE March 83, p297-311

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Veeraraghavachary, K.

disc. (of Optimum Design of Prestressed Concrete Tension Members, by Antoine E. Naaman, ST Aug. 82, p1722-1738), ST Oct. 83, p2477

Vega, Luis

see Bailey, Steve, (Coastal Structures '83, J. R Weggel, ed., 1983), p587-600

Veldman, Wim M.

Arctic Pipeline River Crossings—Design Trends and Lessons Learned, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), p70-83

Veletsos, A. S.

Response Spectrum Approach to Design for Waves, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), with G. Hahn and R. Bordinhao, p295-298

Steady-State and Transient Responses of Linear Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Ashok Kumar, p212-213 Veletsos, Anestis S.

vestessos, America S.
Free Vibration of Parabolic Cables, with Georges R.
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Lateral Dynamic Response of Constrained-Head Piles, with George Gazetas and Raman Krishnan, GT Aug. 83, p1063-1081

Velivasakis, Emmanuel E.

Design Optimization of Lateral Load Resisting Frameworks, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Robert DeScenza, p130-143

Vellinga, Pier

Predictive Computational for Beach and Dune Erosion During Storm Surges, (Coastal Structures '83, J. R. Weggel, ed., 1983), p806-819

Vemulakonda, Seetharama R.

Modeling Longshore Currents for Field Situations, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), with James R. Houston and H. Lee Butler, p1659-1676

Venkatesh, A. see Murthy, P. V. Ramana, (disc), EM Oct. 83, p1313-1316

Venkateswariu, B. disc. (of Procedure for Predicting Wind Damage to Buildings, by Kishor C. Mehta, James R. McDonald and Douglas A. Smith, ST Nov. 81, p2089-2096) with M. Arumugam, ST Apr. 83, p1063

Verdin, J. P.

see Morel-Seytoux, H. J., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p308-319

Vergara, Ignacio

see James, Wesley P., EE Dec. 83, p1273-1283

Verhey, Henk J.

see Blaauw, Henk G., WW Feb. 83, p18-30 Verhoff, Frank H.

see Yaksich, Stephen M., EE Feb. 83, p219-231

Verner, Edward A.

Collapse of Thick Wall Pipe in Ultra Deep Water, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Carl G. Langner and Michael D. Reifel, p159-187

Vernon, Eric A.
see Waldorf, Angela S., (Coastal Zone '83, Orville T.
Magoon, et al, eds., 1983), p2137-2144

An Inside Look at the Pipeline, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with Scott Jordan, p397-414

Veshosky, David A. Regionalism, the New Federalism, and Coastal Zone Management in the 1980's, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p52-60

Vesilind, P. Aarne

see Peirce, J. Jeffrey, EY March 83, p7-16

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see Omoike, G., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p483-486

Design of Modal Control of Structures, EM Oct. 81, p907-915

disc: Mohamed Abdel-Rohman, EM Oct. 82,

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Tensegric Shell Behavior, with Siong S. Soh, ST Aug. p1831-1845

disc: C. R. Calladine, ST Dec. 83, p2946-2947

clo: ST Dec. 83, p2947-2948

Vincent, C. L.

see Thompson, E. F., (Coastal Structures '83, J. R. Weggel, ed., 1983), p1000-1007

Vincent, Hugues

see Monkmeyer, Peter L., (Coastal Structures '83, J. R. Weggel, ed., 1983), p519-531

Vinnakota, Sriramulu Inelastic Stability of Directionally and Rotationally Restrained Imperfect Steel Columns, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds.,

1983), 1130-1133
disc. (of Elastic Buckling of Laterally Continuous I-Beams, by Peter F. Dux and Sritawat Kitiopronchai, ST Sept. 82, p2099-2116), ST Dec. 83, p2948-2949
disc. (of Evaluation of Selected Initial Dilution Models,

by Abu M. Z. Alam, Donald R. F. Harleman and Joseph M. Colonell, EE Feb. 82, p159-186), ST Apr. 83, p1067-1069

disc. (of Inelastic Lateral Torsional Buckling of Beams by Bruce A. Hollinger and C. P. Mangelsdorf, ST Aug. 81, p1551-1567), ST March 83, p823-824

disc. (of Small End Restraint Effects on Strength of

H-columns, by Hironori Sugimoto and Wai F. Chen, ST March 82, p661-681), ST Apr. 83, p1071-1073 see Yabuki, Tetsuya, ST Oct. 83, p2434-2449

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disc. (of Coastal Pollution from Septic Tank Drainfields, by Alfred M. Duda and Kenneth D. Cromartie, EE Dec. 82, p1265-1279), EE Dec. 83, p1457

Virgadamo, Philip P. see Kelly, William E., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p556-560

Visalvanich, Kitisak

see Naaman, Antoine E., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1307-1310

see Rossouw, J., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p87-107

Visser, Ir. C. Design of Dunes as Coastal Protection in the Delta Area of the Netherlands, (Coastal Structures '83, J. R. Weggel, ed., 1983), p792-805

A Unified Geotechnical Engineering Systems Approach Applied to Arctic Pipeline Planning and Design, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with James W. Rooney, p291-300 see Dakshanamurthy, V., (disc), GT Nov. 83, p1501

Vittal, Nandana

Open Channel Transitions: Rational Method of Design, with V. V. Chiranjeevi, HY Jan. 83, p99-115 err: HY Dec. 83, p1778

Vivatrat, Vito

Stability of Arctic Gravity Structures, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), with Brian J. Watt, p267-287

Vladut, Th.

see Loiselle, A. A., (disc), GT July 83, p1017-1019

Vogel, Richard M.

Floodplain Delineation in Ice Jam Prone Regions, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Jery R. Stedinger, p261-266

see Cheng, Franklin Y., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p501-514

Von Dobeneck, Klaus

see Kornegay, H. Thomas, (Proceedings of Ports 83, Kong Wong, ed., 1983), p749-757

VonderHaar, Thomas H. see Simons, Daryl B., (Frontiers in Hydraulic Engi-neering, Hung Tao Shen, ed., 1983), p465-466

Vonk, A. P. M. see Van Dijk, W. S., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1716-1732

Vuong, Diem see Ashcraft, James G., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p731-735

Wafa, Faisal

Peak Response of Hysteretic Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Thomas L. Paez, p214-217

Wagenet, R. J. see Willardson, L. S., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p522-529

Wagner, David A

Comparison of FEM for Nearly Incompressible Solids, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Michael G. Katona, p459-462

Wagner, Michael J.
Pipeline Construction in Arctic & Sub Arctic Regions, (Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), p500-524

Vahls, Harvey E. Tolerable Settlement of Buildings, GT Nov. 81, p1489-1504

disc: Philip Keene, GT Nov. 83, p1495

clo: GT Nov. 83, p1495-1496

Wakabayashi, Minoru

see Nakashima, Masayoshi, ST June 83, p1414-1430

Great Lakes Ice Dynamics Simulation, with Ralph R. Rumer, Jr., WW Feb. 83, p86-102

see Chieh, Shih-Huang, WW Nov. 83, p392-415

Walbert, James N. Spectral Analysis of Radar Data for Ballistics, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p359-362

Waldorf, Angela S.
OCS Planning: The North Carolina Model, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Eric A. Vernon, p2137-2144

Wales, M. W.

Coupled Moment-Axial Force Behavior in Bolted Joints, with E. C. Rossow, ST May 83, p1250-1266

Engineering Approach to Nonlinear Wave Shoaling, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with John Headland, p523-542 see LeMehaute, Bernard, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1800-1819

Walker, Wynn R.
Kinematic-Wave Furrow Irrigation Model, with Allan S. Humphreys, IR Dec. 83, p377-392

see Elliott, Ronald L., IR Sept. 82, p179-195 see Frevert, Donald K., (Advances in Irrigation and

Drainage, John Borrelli, ed., 1983), p377-384

Walklet, Tracy Heenan

New Ocean Technologies in the Twenty-First Century, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p783-790

Wallace, J. M.

Observations on the Nature and Mechanism of the Structure of Turbulent Boundary Layers: A Survey and New Results, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. -L. Balint, J. -L. Mariaux and R. Morel, p1198-1201 Wallace, James M.

A Survey of Methods to Measure Vorticity in Turbulent Flows, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p1250-1253

Waller, Patricia F.

Information to Support Highway Safety Decisions, (The Role of the Civil Engineer in Highway Safety, Martin E. Lipinski, ed., 1983), p162-169

Walpole, Warren R. see Cooke, Nigel, ST March 83, p785-807

Walski, Thomas M.

Technique for Calibrating Network Models, WR Oct. 83, p360-372

Walton, T. L., Jr.
Computational Algorithm for Longshore Energy Flux
Incorporating Friction. (Proceedings of Coastal Engineering 82, Vol.11, Billy L. Edge, ed., 1983), with J. R. Weggel, p1046-1061

Walton, Todd L., Jr.

Linearized Solution to Inlet Equation with Inertia, with Francis F. Escoffier, WW Aug. 81, p191-195 disc: David B. King, Jr., WW Aug. 82, p441-442 clo: WW Feb. 83, p142

Conservatism of Probable Maximum Flood Estimates, with Russell W. Revell, HY March 83, p400-408

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Lifting of Heavy Elastic Sheet, EM Feb. 83, p47-53 see Watson, L. T., EM June 83, p811-820

Design Aspects of Adaptive Finite Element Codes, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with I. N. Katz and M. Z. Qian, p821-824

Wang, Dong-Ping
Two-Dimensional Salt Intrusion Branching Model, WW Feb. 83, p103-112

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Wang, John see LeMehaute, Bernard, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1800-1819

Wang, John D. see Le Mehaute, Bernard, WW Feb. 83, p63-78

Wang, Leon Ru-Liang

A Glance of Research Facilities in Tsukuba, Japan, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p597-600

Wang, M. C. see Baus, R. L., GT Jan. 83, pl-14

Reliability of Antenna Structures, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with J. T. P. Yao and W. F. Chen, p855-858

Wang, Shen

Duration of Measurements and Long-Term Wave Statistics, with Bernard Le Mehaute, WW May 83, p236-249

Wang, T. P. see Wu, Han C., EM Aug. 83, p970-989

see Salamon, N. J., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p443-446

Warburton, Joseph A.

State/Federal Cooperative Programs in Weather Mod-

ification, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p360-367

Ward, George H., Jr.

Pass Cavallo, Texas: Case Study of Tidal-Prism
Capture, WW Nov. 82, p513-525
dise: P. Bruun, WW Nov. 83, p500-503
clo: WW Nov. 83, p503

The Effects of Deepfraft Ship Channels on Salinity
Intrusion in Shallow Bays, (Proceedings of Ports 83, Kong Wong, ed., 1983), p532-542

Ward, Joseph S. Professional Schools: The Debate Continues, El Apr. 83, p136-142

Ward, Roscoe F.

disc. (of Temperature Effects: Methane Generation from Landfill Samples, by Kenneth E. Hartz, Robert E. Klink and Robert K. Ham, EE Aug. 82, p629-638), EE Aug. 83, p979-981

Ward, S. J.

see Hyde, A. F. L., (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p99-110

Ward, William V.

disc. (of Houston Moves to Unravel Traffic, by Merja Lehtinen, CE Nov. 82, p60-63), CE Feb. 83, p24 disc. (of Salvaging Cleveland, by Allen Morrison, CE Nov. 82, p39-42), CE Feb. 83, p24

Wardell, Laurie Rogers

Waterfront Cleanup from a Municipal Perspective, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p361

Wardwell, Robert H.

Regional Port Plans: Government without Regulations, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p336-348

see Calabretta, Victor V., (Proceedings of Ports 83, Kong Wong, ed., 1983), p30-41

Warhurst, Mary Elaine
Protection of OCS Cultural and Biological Resources,
(Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2108-2115

Warluzel, A.

see Burg, M. C., (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p635-651

Warneke, J. E.

see Chang, A. C., EE June 83, p574-583

Warren, James F

Integration of Client/Contractor Project Control, (Current Practice in Cost Estimating and Cost Control, Victor F. Spruill, et al, eds., 1983), with Richard A. Mazzini, p224-235

Warrick, A. W.

Interrelationships of Irrigation Uniformity Terms, IR Sept. 83, p317-332

Planning and Organization of Research in Building, CO Sept. 83, p261-275

Wart, Robert J.

Estimation of Plunge Pool Scour Hole Depth, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Hans W. De Meel, p596

Watan be, Akira

see Horikawa, Kiyoshi, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1335-1352

Watanabe, Elichi see Komatsu, Sadao, ST Feb. 83, p419-438

Watkins, Jack, Jr.

see Logsdon, Gary S., EE Aug. 83, p900-914

Equilibrium Criteria for Channelized Streams, (Fron tiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Michael D. Harvey, p602

River Channel Changes: The Lower Mississippi River Below Natchez, Mississippi, (*Proceedings of Ports 83*, Kong Wong, ed., 1983), p214-226

Watson, L. T.

Periodically Supported Heavy Elastic Sheet, with C. Y. Wang, EM June 83, p811-820

Watson, Layne T.
see Kamat, Manohar P., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p679-682

Watson, Wade W. see Ritchie, Walter D., (Proceedings of Ports 83, Kong Wong, ed., 1983), p254-268

Watt, Brian J.

Design of Prefabricated Offshore Structures for Ice Forces, (Design for Ice Forces, Dan R. Caldwell and Randy Crissman, eds., New York: ASCE, 1983), p17-37

see Vivatrat, Vitoon, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p267-287

Watt. Peter H.

see Tjelta, Tor-Inge, (Geotechnical Practice in Offshore Engineering, Stephen Wright, ed., New York: ASCE, 1983), p166-180

Wattar, Fatteh

see Albrecht, Pedro, (Proceedings of the W. H. Munse Symposium Behavior of Metal Structures, W. J. Hall, et al, eds., 1983), p24-44

Watts, Darell G.

see Klocke, Norman L., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p55-62

Weaver, William, Jr.

Dynamics of Frames with Axial Constraints, with Moshe Eisenberger, ST March 83, p773-784 Finite Element for Shear Walls in Multistory Frames,

with Dong-Guen Lee and George Derbalian, ST July 81, p1365-1369

disc: Iain A. MacLeod, ST June 82, p1446 clo: ST Jan. 83, p281

Webb, Bruce

see Goulter, Ian C., WR Apr. 83, p147-164

Webb, James W.

see Allen, Hollis H., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p735-748

Weber, Lawrence C.

Development and Stability of Colluvium in Nashville, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), with L. E. Wilson, p234-245

Weber, Scott A.

Factors Affecting Nitrogen Removal in Water Hyacinth Treatment Systems, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with George Tchobanoglous, p73-80

Wecharatana, M.

Nonlinear Fracture Process Zone in Concrete, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with S. P. Shah, p993-996

Wecharatana, Methi

Predictions of Nonlinear Fracture Process Zone in Concrete, with Surendra P. Shah, EM Oct. 83, p1231-1246

Weckman, Javier Design Guidelines for Cable-Block Mat Shore Protection Systems, (Coastal Structures '83, J. R. Weggel, ed., 1983), with John M. Scales, p295-206

Reflection Characteristics of a Wave-Absorbing Pier, (Coastal Structures '83, J. R. Weggel, ed., 1983), with Gary N. Bigham and Robert O. Dixon, p953-960

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Weggel, J. Richard Analysis Method for Studying Sedimentation Patterns, WW May 83, p256-260

Weggel, J. Richard, ed. Proceedings of Coastal Structures '83, 1983, 1012pp.

Weggel, J. Richard
The Design of Weir Sand By-Passing Systems, (Coastal
Structures '83, J. R. Weggel, ed., 1983), p860-875
err: WW Nov. 83, p505

Wei, C. Y.

see DeFazio, F. G., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p426-431

Weidlinger, Paul see Wong, Felix S., ST Aug. 83, p1972-1979

Weidner, C. Ken

disc. (of Responding to the Challenges of Engineering Practice, by Adolph J. Ackerman, El Apr. 80, p137-159), El Jan. 81, p76-79

Weidner, Theodore J.

Shape Modification Using Sensitivity Information, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), with Marks Shephard, p144-154

Weiner, David B.

see Levy, Morris S., (Proceedings of Ports 83, Kong Wong, ed., 1983), p649-661

Weingarten, V. I.

see Sarhangnezhad, A. A., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p243-246

see Sarhangnezhad, A. A., (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p467-479

Weir, Graham J.

disc. (of Asymptotic Solution for Dam-Break Problem, by Bruce Hunt, HY Jan. 82, p115-126), HY Apr. 83, p638-639

Welsgerber, Frank E. A Linearized Yield Surface for Tension-Weak Materials, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p964-967

see Baumann, Robert A., ST July 83, p1553-1568

Weisong, Lin

wetsong, Lan see Daming, Zhang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p519-522

Weiss, Lynwood G. see Kieslich, James M., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2173-2185

Weiss, Roger F.

Micro-Computers in the Consulting Office, (Proceedings of the Eighth Conference on Electronic Computation, James K. Nelson, Jr., ed., 1983), p15-27

Wen, Robert K.

Analysis of Frozen Sand Beams, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Sweanum Soo and Orlando B. Andersland, p790-793

Nonlinear Elastic Frame Analysis by Finite Element, with Jalil Rahimzadeh, ST Aug. 83, p1952-1971

Wen, Y. K.

Wen, Y. K. see Pires, J. E. A., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), P871-874 see Sues, R. H., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al., eds., 1983), p311-314

Wen, Yi-Kwei

Wind Direction and Structural Reliability, ST Apr. 83, p1028-1041

Wencai, Wang see Zanting, Chen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p248-253

see Chan, Daniel T., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1586-1599

Wenzel, Harold B.

see Thorpe, J. Derle, (Cold Regions Construction, Darryl F. Jordan, et al, eds., 1983), p59-71

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see Marchman, James F., III., ST Oct. 82, p2235-2244 Werneck, Mauro L. G.

see Ramalho-Ortigao, J. A., GT Nov. 83, p1460-1479 Wescoat, James L.

Water Rights Transfers and Irrigation Efficiency, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p385-390 Wesselink, Bryan D.

Preliminary Inspection of Pier Structures, (Proceedings of Ports 83, Kong Wong, ed., 1983), with Richard B. Harley, p51-61

West, Naida Smith

Siting of Coastal Dependent Industrial Facilities in California, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2706-2724

West, Niels C.

see Heatwole, Charles A., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2587-2598

Westerink, J. J.

Harmonic Finite Element Model of Tidal Circulation for Small Bays, (Frontiers in Hydraulic Engineering Hung Tao Shen, ed., 1983), with J. J. Connor and K. D. Stolzenbach, p170-175

Westerlund, Frank

see Garcia, John, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1763-1780

Westermo, Bruce D. Critical Response Properties for Simple Systems, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p209-211

Weston, Roy F.

see Deb, Arun K., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p486-492

Westrick, James J.

see Cummins, Michael D., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p442-449

Wetzel, Edward D.

Net Energy Production in Wastewater Treatment, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Robert L. Johnson, p577-584

Whaley, Michael see Zada, Alan, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1070-1081

Whaley, P. W. see Pao, Y. C., (Proceedings of the Eighth Conference on Nalson Ir. ed. Electronic Computation, James K. Nelson, Jr., ed., 1983), p711-724

Wheat, Dan L.

Wood Floors with Nonlinear Nail Stiffness, with M. Daniel Vanderbilt and James R. Goodman, ST May 83, p1290-1302

Wheeler, John E.

Prediction and Control of Pedestrian-Induced Vibration in Footbridges, ST Sept. 82, p2045-2065 err: ST March 83, p827

Whipple, William, Jr. disc. (of Urban Runoff Quality: Information Needs, by Michael B. Sonnen, TC Aug. 80, p29-40), TC April 81, p220-221

White, O. C.

see Holler, A. G., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p152-165

White, P. A

Polymer Modified Glass Fiber Reinforced Cement (PGRC) as a Protective Buffer Coating over Thin Film Anti-Corrosion Coatings, (Pipelines in Adverse Environments II. Mark Pickell, ed., 1983), p238-258

White, Richard

see Yener, Muzaffer, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p565-568

White, Richard N. see Jimenez, Rafael, ST May 82, p1106-1123

White, Stanley M.

see Padron, Dennis V., (Proceedings of Ports 83, Kong Wong, ed., 1983), p163-177

White, Thomas L.

see Green, Gordon G., (Accomplishments and Impacts of Reservoirs, Gordon Green, et al, eds., 1983), p56-75

Whiteaker, Barry see Melin, John W., CO Sept. 81, p497-507

Whiteman, Bernice G. see Poirot, James W., (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p1-6

Whitlock, A. Rhett see Brown, Russell H., ST June 83, p1362-1374

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see Slosky, Leonard, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p296-302

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Wong, Kong, ed. Proceedings of Ports 83, 1983, 832pp.

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Wong, ed., 1983), p352-363

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SCS Rainfall-Runoff Model TR-55 and Proposed Revisions, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p541-546

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Wright, Stephen G., ed. Proceedings of the Conference on Geotechnical Practice in Offshore Engineering, 1983, 630pp.

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Influence of Northern Pipelines on River Crossing Design, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with R. H. Cooper, p49-63

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Design and Construction of Hadera Offshore Coal

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Merit Pay in an Engineering Organization, (Personnel: Recruiting, Motivating, Rewarding, J. R. King, Jr., ed., 1983), p16-22

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On the Relation between Changes in Integral Quantities of Shoaling Waves and Breaking Inception, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), with Shintaro Goto and Yoshito Tsuchiya, p22-37

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Geological Environment and Soil Properties, (Geological Environment and Soil Properties, Raymond N. Yong, ed., 1983), pl-4

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Yoshida, Shun-ya

see Mitsui, Yasushi, EM Apr. 83, p619-631

Youd, T. Leslie

Liquefaction Sites, Imperial Valley, California, with Michael J. Bennett, GT March 83, p440-457

Young, A. G. see Quiros, G. W., (Geotechnical Practice in Offshore Engineering, Stepehn Wright, ed., New York: ASCE, 1983), p144-165

Young, D. A. see Fisher, H. D., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p250-258

Young, James C. see Dahab. Mohamed F., (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), p272-279

Young, Peter C.

see Beer, Tom, EE Oct. 83, p1049-1067

Assessing Waterlogging Controls II: Impact Forecasts, (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), with H. J. Morel-Seytoux and A. R. Simpson, p134-140

see Morel-Seytoux, H. J., (Advances in Irrigation and Drainage, John Borrelli, ed., 1983), p124-133

Younkin, Larry M. Nondimensional Comparisons of Reach Routing Methods, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Fred D. Theurer and William H. Merkel, p594

The Newest Transshipment Terminal on the Great Lakes, (Proceedings of Ports 83, Kong Wong, ed., 1983), p427-441

Yu, Chen Shou

Numerical Computation for Flow Regulation of Water Power Stations, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p597

Yu, Jason C. see Ou, Fong-Lieh, TE July 83, p579-595

Yuan, Jill R.

Adsorption of Arsenic and Selenium on Activated Alumina, (National Conference on Environmental Engineering, Allen Medine, et al, eds., 1983), with Mriganka M. Ghosh, Steven M. Hornung and Ron J. Schlicher, p433-441

Yuan, S. W

Highligts of US-China Energy Conference, CE June 83, p70

Yuan, Wei

see Daming, Zhang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p519-522

Yura, Joseph A. see Ricles, James M., ST Jan. 83, p126-142

Zabaloieff, Ivan

see Hochstein, Anatoly B., WW Aug. 83, p310-322

Zacks, J. Survey Techniques/Procedures and Data Processing for Monitoring Nearshore Sediment Transport, (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1600-1619

Mitigation Measures Management Plan for Coastal Zones, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), with Michael Whaley, p1070-1081

Zador, Andrew T.

see Atkin, David, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p997-1014

Zaghloul, Nabil A. SWMM Model and Level of Discretization, HY Nov. 81, p1535-1545 disc: Jiri Marsalek, HY Dec. 83, p1773-1776

Prototype and Model Test for Flow Aeration in the Guri Dam Spillway, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with T. Mantellina and A. Patino. p425

Zahn, John J.

Lateral Stability of Beams with Initial Imperfections, EM June 83, p821-835

Zak, Michail

Discreet Model Improvement by Eigenvector Updating,

EM Dec. 83, p1437-1444
Stiffness Control Using High Frequency Excitations,
(Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p331-334

Zakic, Borislav D.

Shearing Stress in Plastic Bending of Wood Beam, ST Apr. 83, p1042-1060

Zaman, Md. M.

disc. (of New Models for Rock Joints and Interfaces, by Francois E. Heuze and Timothy G. Barbour, GT May 82, p757-776), GT July 83, p1009-1011 see Faruque, Md. O., (Proceedings of the Eighth Conference on Electronic Computation, James K.

Nelson, Jr., ed., 1983), p88-101

archi, Gail R.

see Bishop, Paul L., (National Conference on Environ-mental Engineering, Allen Medine, et al, eds., 1983), p381-390

Zanbak, Caner

Design Charts for Rock Slopes Susceptible to Toppling, GT Aug. 83, p1039-1062

Zandonini, r.

see Finzi, L., (disc), ST June 83, p1521-1522

Zanevald, J. R. V. see Bedford, K. W., (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p122

Zanic, Thomas A. see Shapiro, Harvey A., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p1803-1822

Analysis of the Variation of River Stage in the Freezing Season for Some Cases on the Yellow River, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), with Sun Zhaochu and Wang Wencai, p248-253

Zdravkovich, M. M.

disc. (of Flow around Fixed Circular Cylinders: Fluctuating Loads, by Cesar Farell, EM June 81, p565-588), EM June 82, p567-569

Zechini, Antonio G. Modal Methods in Continuous Bridge Deck Statics, ST June 83, p1507-1517

Zedler, Joy B. Salt Marsh Restoration: The Experimental Approach, (Castal Zone '83, Orville T. Magoon, et al, eds., 1983), p2578-2586

see Metz, Eric D., (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p584-600

Zeizel, Eugene P. Hurricane Preparedness Planning Federal Assistance to State and Local Governments, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2037-2044

Zelechowski, Antoni J.
Boston Main Drainage System 100 Years Later,
(Pipelines in Adverse Environments II, Mark Pickell,

ed., 1983), with Cathy C. Greene, p594-606

Zellner, Wilhelm Incremental Launching of Structures, with Holger Svensson, ST Feb. 83, p520-537

Zentner, John see McCreary, Scott, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p2527-2551

Zerna, Wolfgang

Wind-Buckling Approach for R/C Cooling Towers, with Ihsan Mungan and Walter Steffen, EM June 83, p836-848

Zesheng, Ma

- see Daming, Zhang, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p519-522
- Zetler, B. D.
- State of the Art in Tide Predictions, (Proceedings of Coastal Engineering 82, Vol. I, Billy L. Edge, ed., 1983), p192-202
- Zhan, Ling-Jia see Li, Zi-Cai, HY March 83, p424-446
- Zhang, X. L. see Chang, T. Y., (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p696-701
- Zhangzhu, Wu
 see Daming, Zhang, (Recent Advances in Engineering
 Mechanics and Their Impact on Civil Engineering
 Practice, W. F. Chen, et al., eds., 1983), p519-522
 see Songfa, Luo, (Recent Advances in Engineering
- Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), p255-258
- see Zanting, Chen, (Frontiers in Hydraulic Engineering, Hung Tao Shen, ed., 1983), p248-253
- ua, Feng
- Beam Elements on Two-Parameter Elastic Foundations, with Robert D. Cook, EM Dec. 83, p1390-1402
- Plastic Analysis of Reinforced Concrete Rectangular Thick Plate under Impulsive Loading, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Yang Shengtian, p1036-1039
- Zhong, Zi-Quang see Li, Yu-Cheng, (Coastal Structures '83, J. R. Weggel, ed., 1983), p171-185
- Zieglar, D. L.
 OCS, Frontier Basins, California, (Coastal Zone '83, Orville T. Magoon, et al, eds., 1983), p829-840

- Ziejewski, Sigmund C.
- Traffic Planning for Edens Reconstruction Project, TE Jan. 83, p159-171
- Zimbelman, Darell D.
- Computer Control for Irrigation-Canal System, with David D. Bedworth, IR March 83, p43-59
- erman, M.
- Nonlinear Transient Response of Deep-Ocean Pipeline, (Pipelines in Adverse Environments II, Mark Pickell, ed., 1983), with J. Leonard, J. Tedesco, R. Hudspeth and L. Borgman, p722-736
- Zutraun, Hermann
- disc. (of Underground Transit Station Construction in Japan, by Boyd C. Paulson, CO March 82, p23-37), CO March 83, p125-126
- Zu-Wu, Zhao
- Equilibrium Method of Finite Strip for Plates with Intermediate Supports, (Recent Advances in Engineering Mechanics and Their Impact on Civil Engineering Practice, W. F. Chen, et al, eds., 1983), with Ye Xiang, p523-526
- Zwamborn, J. A.
- Zwamborn, J. A.
 Operational Procedures Richards Bay Harbour, (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), with P. J. Cox, p2700-2722
 see Scholtz, D. J. P., (Proceedings of Coastal Engineering 82, Billy L. Edge, ed., 1983), p2026-2046
- mer, D.
- see Yaron, S. L., (Proceedings of Coastal Engineering 82, Vol. II, Billy L. Edge, ed., 1983), p1786-1799
- Zwemmer, Ir. D. Spending Beach Breakwater at Saldanha Bay, (Proceedings of Coastal Engineering 82, Vol. II, Billy L Edge, ed., 1983), with Ir. J. van 't Hoff, p1248-1267
- Zwetsloot, P. A. J.
- see Greeneveld, R. L., (Coastal Structures '83, J. R. Weggel, ed., 1983), p45-56

